

Curriculum Vitae - Daniel S. Peterson, PhD

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My work aims to improve our understanding of why people fall, and ways to reduce fall frequency. To this end, our lab 1) characterizes balance deficits, 2) assesses neural control of balance, & 3) develops & assesses fall-prevention interventions. We engage an interdisciplinary team to ensure our work is guided by a theoretical framework and is translatable to the clinical community. Our goals of reducing falls and improving quality of life support the mission of the College of Health Solutions to “make meaningful contributions to the health and well-being of society”.

EMPLOYMENT & EDUCATION

Employment

Current positions

Associate Professor: Arizona State University College of Health Solutions Director: Gait and Balance Disorders Laboratory	2022 – Present
Affiliate Faculty: Arizona State University School of Biological and Health Systems Engineering	2016 – Present
Associate Faculty: Arizona State University Biodesign Institute and the ASU-Banner Neurodegenerative Research Center	2022 – Present
Research Affiliate: Karolinska Institute Department of Neurobiology, Health Sciences and Society	2024 – Present
Research Associate: Jonkoping University Institute of Gerontology, School of Health and Welfare	2024 – Present
Adjunct Instructor: University of Utah Program in Physical Therapy	2015 – Present

Previous positions

Assistant Professor: Arizona State University College of Health Solutions	2016 – 2022
Health Science Specialist: Phoenix VA Health Care System Research Division	2018 – 2023
Postdoctoral Researcher: Oregon Health & Science University Department of Neurology	2013 – 2016
Health Science Specialist: Salt Lake City & Portland VA Medical Centers Research Division	2014 – 2016
Research Fellow: Steadman Philippon Research Foundation Biomechanics Laboratory	2008 – 2009

Education

Doctor of Philosophy – Movement Science Washington University in St. Louis	2009 – 2013
Master of Science – Clinical Investigation Washington University in St. Louis	2011 – 2013
Master of Science – Kinesiology (Biomechanics) Pennsylvania State University	2006 – 2008
Bachelor of Science – Exercise and Sport Sciences University of Florida	2002 – 2006

FUNDING

Current Funding (Total= 5; as PI or Co-PI= 3)

- 1) **Funding Source / Grant #:** National Institutes of Health / R01AG086533
Mechanism: R01
Role: PI
Total Cost: \$3,362,930
Title: Identifying Targets for Fall-prevention Rehabilitation in People with Parkinson's Disease
Purpose: Establish the clinically targetable aspects of balance that predict falls in people with PD
Dates of Award: 2024-2029
- 2) **Funding Source / Grant #:** Michael J Fox Foundation MJFF - 026609
Mechanism: Investigator Initiated Award
Role: Co-PI (Co-PIs- Longhurst- St. Louis University; Franzen- Karolinska Institute)
Total Cost: \$304,483
Sub Award to ASU: \$44,493
Title: Leveraging alignment of postural control perception and ability to understand real-world gait in Parkinson's disease
Purpose: Relate daily life mobility to misalignment between actual and perceived mobility.
Dates of Award: 2025-2027
- 3) **Funding Source / Grant #:** Michael J Fox Foundation MJFF- 024692
Mechanism: Investigator Initiated Award
Role: Co-I (PI- Mancini; Oregon Health & Science University)
Total Cost: \$1,136,851
Sub Award to ASU: \$365,577
Title: TURN-IT:A novel intervention program to improve turning in people with PD and freezing of gait
Purpose: To assess the effectiveness of turning rehabilitation on freezing in people with PD
Dates of Award: 2024-2027
- 4) **Funding Source / Grant #:** ASU-Mayo Seed Grant / N/A
Mechanism: Investigator Initiated Award
Role: PI (Co-PI: Mehta)
Total Cost: \$100,000
Title: Quantitative Gait Analysis as a novel diagnostic tool and clinical biomarker for Atypical Parkinsonian Syndromes
Purpose: Utilize machine learning to identify gait biomarkers for typical and atypical Parkinson's disease
Dates of Award: 2023-2025
- 5) **Funding Source / Grant #:** National Institutes of Health / P50
Mechanism: P50
Role: Scientific Consultant (PI- Liew)
Title: Data Science and Analytics for Precision Rehabilitation (DAPR) Center
Purpose: Utilize machine learning to identify gait biomarkers for typical and atypical Parkinson's disease
Dates of Award: 2026-2030

Completed Funding (Total=14; as PI or Co-PI= 10)

- 1) **Funding Source / Grant #:** National Institutes of Health / N/A
Mechanism: a2collective Pilot Award
Role: Co-PI (Co-PI-Denney; Tufts University)
Total Subaward (ASU) Cost: \$73,777
Title: Novel pressure-sensing insoles to better predict and treat falls in home and clinical settings
Purpose: Serves to validate novel insoles for identifying metrics for balance and fall prevention
Dates of Award: 2022-2023

- 2) **Funding Source / Grant #:** ASU Center for Innovation in Healthy and Resilient Aging / N/A

Mechanism: Investigator Initiated Award

Role: Co-PI (Co-PI: Lee)

Total Cost: \$45,000

Title: Assessment and Rehabilitation of Upright Standing Balance to Avoid Falls in people with PD

Purpose: Assess the relationship between balance outcomes and prospectively-collected falls in PD

Dates of Award: 2022-2023

3) **Funding Source / Grant #:** U.S. Dept. of Veterans Affairs / RX002341

Mechanism: Career Development Award (CDA-2)

Role: PI

Total Direct Cost: \$721,117

Title: "Protective Step Training in People with Multiple Sclerosis"

Purpose: Understand whether long-term protective step training can improve protective stepping in people with MS; identify predictors of responsiveness to perturbation training.

Dates of Award: 10/2018 – 10/2024

4) **Funding Source:** Michael J Fox Foundation

Role: PI

Total Cost: \$409,013

Title: Protective Step Training in People with PD and Postural Disturbances

Purpose: Understand the impact of perturbation training on people with PD who are at risk for falls.

Dates of Award: 2019 – 2021

5) **Funding Source / Grant #:** Northern Arizona University / N/A

Mechanism: Seed Grant Program

Role: Co-PI (Co-PI: Denney, Northern Arizona University)

Total Cost: \$2,000

Title: Assessing the use of laser shoes for freezing of gait in people with Parkinson's disease

Purpose: Characterize the impact of a new technology to improve walking in people with PD

Dates of Award: 2019-2021

6) **Funding Source / Grant #:** College of Health Solutions, ASU / N/A

Mechanism: Jumpstart Seed Grant

Role: PI

Total Cost: \$18,000*

Title: The Impact of Dopamine on Attention in Parkinson's Disease

Purpose: Characterize how attentional control varies across dopaminergic states in people with PD

Dates of Award: 2019-2022

7) **Funding Source / Grant #:** National Multiple Sclerosis Society / N/A

Mechanism: Investigator-Initiated Pilot Award

Role: Co-PI (PI of ASU subcontract; Co-PI: Fling; Colorado State University)

Total Cost: \$40,000

Subaward Cost to ASU / DSP: \$13,607 / \$13,607

Title: Interhemispheric communication in people with MS: Implications for balance and mobility

Purpose: Investigate how interhemispheric communication is altered in people with MS, and how this may impact motor performance and learning.

Dates of Award: 2018 – 2019

8) **Funding Source / Grant #:** National Multiple Sclerosis Society (NMSS) / RG-1701-26763

Mechanism: Investigator Initiated Research Grant

Role: Co-PI (PI of ASU subcontract; Project PI: Dibble; University of Utah)

Total Cost: \$458,000

Subaward Cost to ASU / DSP: \$32,880 / \$32,880

Title: Gaze and postural stability in persons with MS at risk for falls: Characterizing deficits and response to treatment.

Purpose: The purpose of this RCT is to characterize the impact of task specific gaze and postural stability training on balance, dizziness, and vestibular function in people with MS.

Dates of Award: 2017-2020

9) **Funding Source / Grant #:** Lundbeck LLtC / N/A

Mechanism: Investigator Initiated Award
Role: Co-I (PI: Lieberman; Barrow Neurological Institute, AZ)
Total Cost: \$350,000
Subaward Cost to ASU / DSP: \$65,000 / \$16,250
Title: Effect of L-DOPS on falls among Parkinson's disease patients with orthostatic hypotension
Purpose: Understand the effect of anti-hypotension medication on balance in people with PD
Dates of Award: 2018-2020

10) Funding Source / Grant #: Center for Innovation in Healthy & Resilient Aging

Mechanism: Seed Grant
Role: Co-I (PI: Krishnamurthi; ASU [CONHI] faculty)
Total Direct Cost: \$50,000*
Title: Developing a real-time fall risk assessment in Parkinson's disease by continuous monitoring of free-living activities
Purpose: To evaluate the predictive capacity of real-time, free-living activities for fall prediction in people with Parkinson's disease.
Dates of Award: 2019 – 2021

11) Funding Source / Grant #: Arizona State University & Mayo Medical Center / N/A

Mechanism: Pilot Seed Grant
Role: PI
Total Cost: \$50,000
Title: Dual-task Perturbation Training: A novel intervention for fall prevention in people with PD
Purpose: Determine whether people with Parkinson's disease can improve protective stepping over 1-day of practice while attention is divided (i.e. under dual tasking scenario).
Dates of Award: 2018 – 2019

12) Funding Source / Grant #: National Multiple Sclerosis Society / PP-1512-07101

Mechanism: Investigator Initiated Pilot Grant
Role: Co-I (PI of ASU subcontract; PI: Foreman; University of Utah)
Total Cost: \$39,640
Subaward Cost to ASU / DSP: \$16,200 / \$16,200
Title: Compensatory Stepping in People with Multiple Sclerosis
Purpose: The purpose of this study is to determine the degree to which people with multiple sclerosis can improve protective stepping over a short-term (1-day) practice period.
Dates of Award: 2016 – 2018

13) Funding Source / Grant #: U.S. Dept. of Veterans Affairs / I01BX007080

Mechanism: Career Development Award (CDA-1)
Role: PI
Total Cost: \$160,983
Title: Effect of levodopa on postural motor learning in Parkinson disease
Purpose: Understand whether people with Parkinson's disease improve protective stepping responses after repeated postural perturbations (i.e. simulated trips), and the effect of levodopa on improvements.
Dates of Award: 2014-2016

14) Funding Source / Grant #: Medical Research Foundation of Oregon / N/A

Mechanism: Early Clinical Investigator Award
Role: PI
Total Cost: \$19,971
Title: Postural motor learning in Parkinson's disease
Purpose: Characterize the performance and improvement of protective stepping between healthy young, healthy old, individuals with Parkinson's disease.
Dates of Award: 2014-2015

RESEARCH DISSEMINATION & AWARDS

Peer Reviewed Publications

Source	H-index	Citations	i-10 index
Google Scholar	33	3439	62
Scopus	29	2288	--

Updated Feb. 2026

Full Bibliography:

- Pubmed: <https://www.ncbi.nlm.nih.gov/myncbi/daniel.peterson.6/bibliography/public/>
- Google Scholar: https://scholar.google.com/citations?user=zSjM_PEAAAAJ&hl=en
- Scopus: <https://www.scopus.com/authid/detail.uri?authorId=16307615200>
- ORCID: <https://orcid.org/0000-0002-4639-6544>

Shaded = student or mentee under full or partial supervision of DSP

^c = DSP corresponding author

2026 (total= 5; DSP as first, last, or corresponding= 3)

1. 100. Conklin SJ, Albrecht F, Hooyman A, **Peterson DS**, Franzen E, Longhurst JK. Identifying Predictors of Discordance Between Balance Perception and Ability in Parkinson Disease. Accepted and in Press: *Journal of Neurologic Physical Therapy (JNPT)*
2. 99. **Peterson DS**^c, Longhurst JK, Albrecht F, Weller J, Vasquez J, Zarif M, Gudesblatt M, Hooyman A. Discordance between actual and perceived balance ability relates to quality of life and global cognition in a clinical sample of Parkinson patients. Accepted and in Press: *Journal of Parkinson's Disease (JPD)*.
3. 98. Barua Soumma S, **Peterson DS**, Mehta SH., Ghasemzhadeh H. Self-Supervised Learning and Opportunistic Inference for Continuous Monitoring of Freezing of Gait in Parkinson's Disease. Accepted and In Press. *ACM Transactions on Computing for Healthcare*.
4. 97. Lee J, Huang S, **Peterson DS**. Quantitative Assessment of Violin Performance through Wearable Sensor-Based Analysis of Muscle Tension and Motion Smoothness. *Int. J. of Music, Science, Technology and Art. (IJMSTA)* 8 (1): 21-27, Music Academy "Studio Musica", 2026 ISSN: 2612-2146 (Online).
5. 96. **Peterson DS**^c, Nayak S, Lee H, Huisinga J, Hooyman A. Understanding the relationship between cutaneous sensation, balance, and falls in people with MS. Accepted. *Journal of Neurologic Physical Therapy (JNPT)*.

2025 (total = 13; dsp as first, last, or corresponding= 5)

6. 95. **Peterson DS**^c, Johansson L., Westerlind B., Lopes De Oliveria T., Finkel D. Relating consequential falls to individual and combinations of prescription medication use in Swedish older adults. Accepted and In Press. *European Journal of Clinical Pharmacology*.
7. 94. Kvist A, **Peterson DS**, Bezuidenhout, Johansson H, Albrecht F, Eckman U, Conradsson DM, Franzen E. Exploring gait automaticity and prefrontal brain activity during single and dual-task walking in aging and Parkinson's disease. Accepted and In Press. *Journal of NeuroRehabilitation*.
8. 93. Monaghan AS, Takla T, Ofori E., **Peterson DS**, Wu W., Fritz NE., Longhurst J. The neural contributions to reactive balance control: a scoping review. In Press. *Brain Sciences*.
9. 92. Larsson K, Johansson H, **Peterson DS**, Sedhed J, Leavy B. Relating movement behaviours and non-motor characteristics in people with Parkinsons disease: a compositional data analysis approach. *Journal of Parkinson's Disease*. In Press
10. 91. Schaefer SY, **Peterson DS**, Ernst Bravel M, Finkel D. Predicting the onset of dementia with longitudinal performance-based measures of physical function. *J Gerontol B Psychol Sci Soc Sci*. 2025 Sep 20;gbaf176. doi: 10.1093/geronb/gbaf176. Online ahead of print.

11. 90. **Peterson DS^c**, Johansson L, Westerlind B, Lope De Oliveira T, Finkel D. Characterizing the time of day and year of falls in people with probable Parkinson's disease. *Scientific Reports*. In Press.
12. 89. **Delgado F**, Yu F, **Peterson DS**, Ofori E, MacKinnon DP, Beldon C, Adler CH, Beach TG, Der Ananian C. Apolipoprotein E, Executive Function, and Falls Across Cognitive Status: A Cross-Sectional Study. *Dement Geriatr Cogn Disord*. 2025 Aug 21:1-16. doi: 10.1159/000548084. Online ahead of print.
13. 88. **Peterson, DS**, Hooyman A, Takla TN, Monaghan PG, Huisinga J, Robers MV, Fritz NE. Fall history moderates the relationship between concern about falling and reactive stepping performance in people with multiple sclerosis. *Neuroscience.*, 2025 Sep 13:583:171-178. doi: 10.1016/j.neuroscience.2025.08.005. Epub 2025 Aug 6.
14. 87. Mostafavi SM, Soumma SB, **Peterson DS**, Mehta SH, Ghasemzadeh H. Detection and Severity Assessment of Parkinson's Disease by Analysis of Wearable Sensors Data Using Gramian Angular Fields and Deep Convolutional Neural Networks. *Sensors*. **2025**, 25(11), 3421; doi.org/10.3390/s25113421
15. 86. Longhurst J, Hooyman A, Albrecht F, Franzen E., **Peterson DS**. Discordance between balance ability and perception and its relation to falls in Parkinson's disease: A replication analysis. *Neurorehabil Neural Repair*. 2025 May 6. doi: 10.1177/15459683251335316. Online ahead of print. PMID: 40326378 DOI: 10.1177/15459683251335316
16. 85. **Peterson DS^c**, Monaghan, AS, Hooyman A, Trevino J, Kratz K. Feasibility and Preliminary Effectiveness of a 2-week in-place reactive balance training program in people with multiple sclerosis. *Mult Scler Relat Disord*. 2025 Mar:95:106346. doi: 10.1016/j.msard.2025.106346. Epub 2025 Feb 18. PMID: 39999592 DOI: 10.1016/j.msard.2025.106346.
17. 84. Zanutto T, Pradeep Kumar D, Golan D, Wilken J, Doniger GM, Zarif M, Bumstead B, Buhse M, Weller J, Morrow SA, Penner IK, Hancock L, Covey TJ, Ofori E, **Peterson DS**, Motl RW, Bogaardt H, Barrera M, Bove R, Karpatkin H, Sosnoff JJ, Gudesblatt M. Does cognitive performance explain the gap between physiological and perceived fall-risk in people with multiple sclerosis? *Mult Scler Relat Disord*. 2025 Feb 5:95:106322. doi: 10.1016/j.msard.2025.106322. Online ahead of print.
18. 83. Johansson H, **Peterson DS**, Sedhed J, Leavy B. Dual-task performance during the Timed Up and Go test in Parkinson's disease – evaluating impact of freezing and cognition. *Gait & Posture*. 2025 Jan:115:14-20. doi: 10.1016/j.gaitpost.2024.10.016. Epub 2024 Oct 18.

2024 (total= 5; DSP as first, last, or corresponding= 3)

19. 82. Takla TN, Monaghan PG, **Peterson DS**, Fritz NE. The Relation Among Reactive Stepping and Fall-Related Psychological Factors in Multiple Sclerosis. *Brain Sci*. 2024 Nov 28;14(12):1197. doi: 10.3390/brainsci14121197.
20. 81. Longhurst JK, Hooyman A, Landers MR, Mancini M, Franzen E, Leavy B, Johansson H, **Peterson DS**. Discordance between balance ability and perception is associated with falls in Parkinson's disease: a coordinated analysis. *Neurorehabilitation and Neural Repair*. Nov 27:15459683241300456. doi: 10.1177/15459683241300456. Online ahead of print. PMID: 39601421
21. 80. Kim JK, Rider JV, Zinselmeier A, Chiu YF, **Peterson DS**, Longhurst JK. Dual task gait has prognostic value for cognitive decline in Parkinson's disease. *Journal of Clinical Neuroscience*. Aug;126:101-107. doi: 10.1016/j.jocn.2024.06.006. Epub 2024 Jun 11. PubMed PMID: 38865942.
22. 79. Monaghan, AS, Ofori E, Fling B, **Peterson DS^c**. Associating White Matter Microstructural Integrity and Improvements in Reactive Stepping in People with Parkinson's Disease. *Brain Imaging & Behavior*. Aug;18(4):852-862. doi: 10.1007/s11682-024-00867-w. Epub 2024 Mar 26.
23. 78. Monaghan, AS, Hooyman A, Dibble LE, Mehta S, **Peterson DS^c** Generalization of In-Place Balance Perturbation Training in People with Parkinson Disease. *Journal of Neurologic Physical Therapy*. Jul 1;48(3):165-173. doi: 10.1097/NPT.0000000000000471. Epub 2024 Mar 14.

2023 (total= 9; DSP as first, last, or corresponding= 7)

24. 77. Monaghan, AS, Hooyman A, Dibble LE, Mehta S, **Peterson DS^c** Cognitive Predictors of Responsiveness to Reactive Step Training in People With Parkinson's Disease at Fall Risk.

25. 76. Lockhart T, Frames C, Olson M, Moon SH, **Peterson DS**, Lieberman A. Effects of Protective Step Training on Proactive and Reactive Motor Adaptations in Parkinson's Disease Patients. *Front Neurol*. 2023 Oct 24;14:1211441. doi: 10.3389/fneur.2023.1211441. eCollection 2023. PMID: 37965161. PMCID: PMC10642212
26. 75. Monaghan AS, Ragothaman A, Harker GR, Carlson-Kuhta P, Horak FB^c, **Peterson DS**^c. Freezing of Gait in Parkinson's Disease: Implications for Dual-Task Walking. *Journal of Parkinson's Disease*. PMID: 37574744 DOI: 10.3233/JPD-230063.
27. 74. Rafie F, Shibani V, Shahbazi M, Pourranjbar M, Nekouei AH, Rajizadeh MA, **Peterson DS**. Effects of voluntary and forced exercises on neurotrophic factors and cognitive function in animal models of Parkinson's disease. *Neuropeptides*. Neuropeptides 101,102357
28. 73. Mancini M, Hasegawa N, **Peterson DS**, Horak FB, Nutt John G. Digital Measures of Freezing of Gait across the spectrum of normal, non-freezers, possible freezers and definite freezers. *Journal of Neurology*. 2023 May 19. doi: 10.1007/s00415-023-11773-4. PMID: 37208526.
29. 72. Monaghan, AS, Hooyman A, Dibble LE, Mehta S, **Peterson DS**^c. Stability Changes in Fall-Prone Individuals with Parkinson's Disease Following Reactive Step Training. *Journal of Neurologic Physical Therapy*. 2023 Jun 1. doi: 10.1097/NPT.0000000000000442. PMID: 37259190
30. 71. Monaghan, P, Monaghan, AS, Hooyman A, Fling BW, Huisinga JM, **Peterson DS**^c, Utilizing the ISway to Identify and Compare Balance Domain Deficits in People with Multiple Sclerosis. *Archives of Physical Medicine & Rehabilitation*. 2023 Apr 8;S0003-9993(23)00153-3. doi: 10.1016/j.apmr.2023.02.018. PMID: 37037293
31. 70. Monaghan, AS, Gordon, E, Graham L, Hughes, E, **Peterson, DS**^c, Morris, R. Cognition and Freezing of Gait in Parkinson's Disease: A Systematic Review and Meta-Analysis. *Neuroscience and Biobehavioral Reviews*. 2023 Apr;147:105068. doi: 10.1016/j.neubiorev.2023.105068. PMID: 36738813.
32. 69. Van Liew C, Gudesblatt M, Covey TJ, Wilken J, Golan D, Zarif M, Bumstead B, Buhse MJB, Ofori E, **Peterson DS**. The moderating roles of self-efficacy and depression in dual-task walking in multiple sclerosis: A test of self-awareness theory. *J Int Neuropsychol Soc*. 2023 Mar;29(3):274-282. doi: 10.1017/S1355617722000200. Epub 2022 Apr 25. PubMed PMID: 35465869.

2022 (total= 7; DSP as first, last, or corresponding= 4)

33. 68. Phan Vu, **Peterson DS**, Lee H^c. Directional Virtual Time-to-Contact: A New Measure for Investigating Temporal, Spatial, and Control Aspects of Postural Balance Control. *Journal of Biomechanics*. 2023 Jan;146:111428. doi: 10.1016/j.jbiomech.2022.111428. PMID: 36610387
34. 67. Loyd BJ, Agnew L, Dibble L, Fangman A, **Peterson DS**, Schubert M, Gappmaier E, Thackeray A. Rehabilitation to Improve Gaze and Postural Stability in People with Multiple Sclerosis: A Randomized Clinical Trial. *Neurorehabilitation & Neural Repair*. 022 Nov;36(10-11):678-688. doi: 10.1177/15459683221124126. Epub 2022 Sep 13. PMID: 36113117.
35. 66. **Peterson DS**^c. Effects of Gender on Dual-Tasking and Prioritization in Older Adults. *Gait & Posture*. 2022 Sep;97:104-108. doi: 10.1016/j.gaitpost.2022.07.247. Epub 2022 Jul 22. PMID: 35917700.
36. 65. Monaghan A, Mansfield A, Huisinga J, **Peterson DS**^c. Examining the Relationship Between Reactive Stepping Outcomes and Falls in People With Multiple Sclerosis. *Physical Therapy Journal (PTJ)*. 2022 Jun 3;102(6):pzac041. doi: 10.1093/ptj/pzac041. PMID: 35403692
37. 64. Monaghan A, Johansson H, Torres A, Brewer G, **Peterson DS**^c. The impact of divided attention on automatic postural responses: A systematic review and meta-analysis. *Experimental Gerontology*. 2022 Jun 1;162:111759. doi: 10.1016/j.exger.2022.111759. Epub 2022 Mar 1. PMID: 35245641
38. 63. Richmond SB, **Peterson DS**, Fling BW. Bridging the Gap- Bilateral lower limb coordination and Callosal Integrity in people with Multiple Sclerosis. Accepted and in press: *Brain imaging and Behavior*. 2022 Jan 28. doi: 10.1007/s11682-021-00612-7. PMID: 35088352.
39. 62. Van Liew C, Huisinga, **Peterson DS**^c. Evaluating the contribution of reactive balance to prediction of fall rates cross-sectionally and longitudinally in persons with multiple sclerosis. *Gait and Posture*.

2021 (total= 13; DSP as first, last, or corresponding= 8)

40. 61. Monaghan A, Huisinga J, **Peterson DS^C**. The relationship between plantar sensation and muscle onset during automatic postural responses in people with multiple sclerosis and healthy controls. *Multiple Sclerosis & Related Disorders*. Oct 5;56:103313. doi: 10.1016/j.msard.2021.103313. PMID: 34644600
41. 60. Monaghan A, Finley J, Mehta SH, **Peterson DS^C**. Assessing the impact of dual-task reactive step practice in people with Parkinson's disease: A feasibility study. *Human Movement Science*. Sep 14;80:102876. doi: 10.1016/j.humov.2021.102876. PMID: 34534945
42. 59. Van Liew C, Monaghan A, Foreman B, Dibble LE, **Peterson DS^C** Perturbation Practice in Multiple Sclerosis: Assessing Generalization from Surface Support Translations to Tether-Release Tasks. *Multiple Sclerosis and Related Disorders*. Aug 16;56:103218. doi: 10.1016/j.msard.2021.103218. PMID: 34454306
43. 58. Van Liew C, Dibble L, Foreman B, **Peterson DS^C**. Change in "First Trial" Performance After Protective Step Practice in People with Multiple Sclerosis. *Clinical Biomechanics*. Aug 13;88:105448. doi: 10.1016/j.clinbiomech.2021.105448. PMID: 34418821.
44. 57. Loyd BJ, Agnew L, Fangman A, Thackeray A, **Peterson D**, Schubert M, Dibble L. Characterizing Gaze and Postural Stability Deficits in People with Multiple Sclerosis. *Multiple Sclerosis and Related Disorders*. Aug 14;55:103205. doi: 10.1016/j.msard.2021.103205. PMID: 34438218
45. 56. **Peterson DS^C**, Phan V, Richmond S, Lee H, Effects of dual-tasking on time-to-boundary during stance in people with PD: A Preliminary Study. *Clinical Biomechanics*. Jun 26;88:105420. doi: 10.1016/j.clinbiomech.2021.105420. PMID: 34216987
46. 55. Monaghan A, Huisinga J, **Peterson DS^C**. The Application of Principal Component Analysis to Characterize Gait and its Association with Falls in Multiple Sclerosis. *Sci Rep*. 2021 Jun 17;11(1):12811. doi: 10.1038/s41598-021-92353-2. PMID: 34140612,
47. 54. Richmond SB, Lee H, Fling BW, **Peterson DS^C**. The assessment of center of mass and center of pressure during quiet stance: Current applications and future directions. *Journal of Biomechanics*. 2021 Jun 23;123:110485. doi: 10.1016/j.jbiomech.2021.110485, PMID: 34004395
48. 53. Roman G, **Peterson DS**, Ofori E, Vidt M. Upper extremity biomechanics in native and non-native signers *Accepted and In Press, WORK*.
49. 52. Monaghan A, **Peterson DS^C**. Torque responses to in-place-perturbations in people with multiple sclerosis. *Gait & Posture*. Feb;84:346-351. doi: 10.1016/j.gaitpost.2021.01.003. Epub 2021 Jan 10. PMID: 33454502
50. 51. Johansson H, Ekman, U, Rennie L, **Peterson DS**, Leavy B, Franzen E. Dual-Task Effects During a Motor-Cognitive Task in Parkinson's Disease: Patterns of Prioritization and the Influence of Cognitive Status. *Neurorehabilitation and Neural Repair*. 2021, March 10. DOI: 10.1177/1545968321999053, PMID: 33719728
51. 50. **Peterson DS^C**, Moore A, Ofori E. Performance fatiguability during walking in people with Charcot-Marie-Tooth disease. *Gait & Posture*. Feb 11;85:232-237. doi: 10.1016/j.gaitpost.2021.02.002. PMID: 33618167.
52. 49. Richmond SB, Swanson CW, **Peterson DS**, Fling BW. Advanced characterization of Static Postural Control Dysfunction in Persons with Multiple Sclerosis and Associated Neural Mechanisms. *Gait & Posture*. Jan;83:114-120. doi: 10.1016/j.gaitpost.2020.10.015. PMID: 33129171.

2020 (total= 12; DSP as first, last, or corresponding= 4)

53. 48. **Peterson DS^C**, Van Liew, Stuart S, Horak FB, Mancini M. Relating Parkinson freezing and balance domains: A structural equation modeling approach. *Parkinsonism Relat Disord*. 2020 Aug 25;79:73-78. doi: 10.1016/j.parkreldis.2020.08.027. PMID: 32889503

54. 47. **Peterson DS^C**, Barajas J, Denney L, Mehta S. Backward Protective Stepping During Dual-Task Scenarios in People With Parkinson's Disease: A Pilot Study. *Neurorehabilitation & Neural Repair*. Aug;34(8):702-710. doi: 10.1177/1545968320935814. Epub 2020 Jul 7. PMID: 32633614
55. 46. **Peterson DS^C**, Mancini M, Fino P, Horak FB, Smulders KS. Speeding up Parkinson's Disease. *J Parkinsons Dis*. 2020;10(1):245-253. doi: 10.3233/JPD-191682. PMID: 31561384 PMCID: PMC7304052.
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2016 (total= 7; DSP as first, last, or corresponding= 7)

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2014 (total= 2; DSP as first, last, or corresponding= 2)

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2012 (total= 3; DSP as first, last, or corresponding= 2)

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2010 (total= 1; DSP as first, last, or corresponding= 1)

100. 1. **Peterson DS**, Martin PE (2010) Effects of Age and Walking Speed on Coactivation and Cost of Walking in Healthy Adults. *Gait and Posture*. Mar; 31(3):355-9. PMID: 20106666

Letters to the Editor

2021

1. Richmond, SB., Fling BW., Lee H., **Peterson DS**. Letter to the editor in response to "The assessment of center of mass and center of pressure during quiet stance: Current applications and future directions". *Journal of Biomechanics* 128,110730

Selected Conference Abstracts and Proceedings

Trainee presenter or co-author under Dr. Peterson's mentorship

Conference Proceedings

Vaibhav Polisetti Venkata S, Sabat S, Deshpande CA, Arefeen A, Peterson DS, Zadeh H. On-Device Machine Learning for Diagnosis of Parkinson's Disease from Hand Drawn Artifacts. *BHI-BSN 2022 - IEEE-EMBS International Conference on Biomedical and Health Informatics and IEEE-EMBS International Conference on Wearable and Implantable Body Sensor Networks – Proceedings*.

Selected Podium presentations

Peterson, DS, Ghasemzadeh H. Using Machine Learning and AI to Understand Mobility. 2025 Digital Health Symposium. Arizona State University.

Peterson, DS, Monaghan AS, Hooyman A, Trevino J, Wooliscroft L, Kratz, K. The effects of a 2-week in-place reactive balance training program in people with multiple sclerosis. The 13th International Symposium on Gait and Balance in MS. Virtual, Oct. 2024

Monaghan A, Gordon E, Graham L, Hughes E, **Peterson DS**, Morris R. Cognition and Freezing of Gait in Parkinson's Disease: A systematic Review and Meta-Analysis. World Parkinson's Congress. Barcelona SP, 2023.

Dirks L, Plesher K, Rupiper P, Moskowitz S, Ivy C, Denney L, **Peterson D**, Shill H. Impact of Laser Shoes On Activities of Daily Living in People with Parkinson's and Freezing of Gait. World Parkinson's Congress. Barcelona SP, 2023.

Monaghan A, Trevino J, Barajas J, Ofori E, Fling B, **Peterson DS**. Examining the Relationship Between White Matter Integrity and Reactive Stepping. International Symposium on Gait and Balance in Multiple Sclerosis. Denver, CO. 2023

Monaghan A, Trevino J, Barajas J, Ofori E, Fling B, **Peterson DS**. The Effectiveness of Reactive Step Training in People with Multiple Sclerosis. International Symposium on Gait and Balance in Multiple Sclerosis. Denver, CO. 2023

Monaghan P, Monaghan A, Hooyman A, Fling B, Huisinga J, **Peterson DS**. Modeling Balance in People with Multiple Sclerosis: An Exploratory Factor Analysis Approach. International Symposium on Gait and Balance in Multiple Sclerosis. Denver, CO. 2023

Phan, V, **Peterson DS**, Lee H, Adverse impacts of Parkinson's disease and dual-tasking on the temporal and control aspects of balance interpreted by directional virtual time to contact. American Society of Biomechanics. 2023

Monaghan A, Trevino JL, Barajas, JS, Dibble LE, Mehta SH, **Peterson DS**. Cognitive Predictors of Reactive Step Training in Parkinson's Disease. *American Society of NeuroRehabilitation*. St. Louis, MO. April, 2022

Oxpring M, **Peterson DS**. Improvement in muscle activation latency through reactive step training in people with Parkinson's Disease. American Academy of Physical Medicine and Rehabilitation. 2023

Delgado F, Der Ananian C, Schaefer S, Bosch P, **Peterson DS**. Balance and Reactive Steps in Older Adults With and Without Self-Reported Musculoskeletal Conditions. *Gerontological Society of America*, November 4-7, 2020

Peterson DS, Dijkstra BW, & Horak FB. Effects of Levodopa on Postural Motor Learning in Parkinson's Disease. *International Society of Posture and Gait Research*, June, 2015.

Peterson DS, Dijkstra BW, & Horak FB. Effects of Parkinson's Disease on Adaptation of Compensatory Stepping. *Gait and Clinical Movement Analysis Society Annual Meeting*, March, 2015.

Peterson DS, Pickett KA, & Earhart GM. Supra-spinal Control of Locomotion in Freezers and Non-freezers with Parkinson Disease. *International Society of Posture and Gait Research*, Akita, Japan, June 2013

Peterson DS, Pickett KA, & Earhart GE. "Cortical and subcortical brain activity during imagined gait tasks across age" *International Society of Posture and Gait Research*, Trondheim Norway, June 2012.

Peterson DS, Pickett KA, & Earhart GE. "Comparing Supra-spinal Locomotor Regions in Parkinson's

Disease and Controls. *Clinical Research Training Center National Meeting*, Rochester MN, May 2012.

Peterson DS, & Martin PE. "Effects of Age and Walking Speed on Coactivation during Gait" *American Society of Biomechanics*. State College, PA. August 26-69, 2009.

Peterson DS, Krong J, Giphart JE, Shelburne K, Steadman JR & Torry M. "Comparison of Tibial Translations during Soft and Stiff Landings in Healthy Adults: A Biplane Fluoroscopy Study" *American Society of Biomechanics*. State College, PA. August 26-69, 2009.

Selected Poster Presentations

Peterson DS, Shah VV, Carlson-Kuhta P, Silva-Batista C, Ragothaman A, Nutt JG, Horak FB, Mancini M. People with PD who freeze have altered quality, but not quantity of daily-life walking. International Consortium of Freezing of Gait Conference. Atlanta, GA. 2025

Peterson DS. Hooyman A, Takla TN, Monaghan PG, Huisinga J, Robers MV, Fritz NE. Fall history moderates the relationship between fear of falling and reactive stepping performance in people with multiple sclerosis. International Symposium on Gait and Balance in Multiple Sclerosis. Denver, CO. 2025.

Nayak S, **Peterson DS**, Huisinga J, Lee H. Comparative Assessment of Postural Balance Control in Multiple Sclerosis Patients Using Virtual Time-to-Contact and Traditional Balance Metrics. American Society of Biomechanics, Madison Wisconsin, **2024**.

Peterson DS., Johansson L, Westerlind B, Lopes de Oliveira T, Finkel D. Relating Specific Medications to Record of Falls in a Large Cohort of Older Swedish Adults. Geriatric Society of America. Seattle, WA. **2024**

Velez M, Ofori E, Rodi A, Valdez M, Grabeel K, Sabri A, Smith-Plata J, **Peterson DS**, Beversdorf D, Braden B. Identifying Links Between Parkinsonism Symptoms, Restricted and Repetitive Behaviors and Interests, and Caudate Volume in Autistic Adults Across the Lifespan. *International Society for Autism Research* **2024**.

Soumma SB, **Peterson DS**, Ghasemzadeh H, Mehta S. AI-Powered Detection of Freezing of Gait Using Wearable Sensor Data in Patients with Parkinson's Disease. *Movement Disorders Society* **2024**. Philadelphia PA

Kim J, Rider JV, Zinselmeier A, Chiu Yi-Fang, **Peterson DS**, Longhurst JK. Interlimb arm swing asymmetry during dual-task gait has diagnostic values for cognitive decline in Parkinson's disease. *APTA Combined Sections Meeting*. Boston, MA, **2024**.

Barajas JS, Monaghan A, Trevino T, Dibble L, Mehta S, Peterson DS Effects of In-Place Perturbation Training on Falls in People with Parkinson's disease and Postural Dysfunction *International Society of Posture and Gait Research*. Montreal, CA, July, 2022

Monaghan A, Trevino J, Barajas J, Dibble L, Mehta S, Peterson DS. The Effectiveness of Reactive Step Perturbation Training in People with Parkinson's Disease and Posture Disturbances. *International Society of Posture and Gait Research*. Montreal, CA, July, 2022.

Mancini M, Hasegawa N, Peterson DS, Horak FB, Nutt JG. Freezing of Gait across the spectrum of normal, non-freezers, possible freezers, and definite freezers. *International Society of Posture and Gait Research*. Montreal, CA, July, 2022

Phan Vu, Peterson DS, Lee H. Directional Virtual Time-To-Contact: A Case Study on Assessing Impacts of Disease and Dual-Tasking. North American Society of Biomechanics (NACOB) Ottawa, CA, August, 2022.

Monaghan A, Mansfield A, Huisinga J, Peterson DS. Delayed Step Latencies During Backward Reactive Stepping Increases the Odds of Having a Fall History. *American Society of NeuroRehabilitation*. St. Louis, MO, April. 2022.

Van Liew C, Gudesblatt M., Covey T., Wilken J., Golan D, Zarif M, Peterson D. The moderating roles of self-efficacy and depression in dual task walking in multiple sclerosis: A test of self-awareness theory. *International Symposium on Gait and Balance in Multiple Sclerosis*. Virtual. September, 2021

- Van Liew, C., Gudesblatt M, Srinivassan J, Kaczmarek O, Golan D, Doinger G, Peterson D. Cognitive Domains and Dual Task Walking in Persons with Multiple Sclerosis. *International Symposium on Gait and Balance in Multiple Sclerosis*. Virtual. September, 2021.
- Monaghan, A, Huisinga, J, & Peterson D. Modeling Gait in People with Multiple Sclerosis: A Principal Component Analysis Approach. *International Symposium On Gait and Balance in Multiple Sclerosis*. Virtual. September, 2021
- Phan, Vu, Peterson, DS, Lee, H: Intermittent Switching Rate as a Measure to Assess Impacts of Parkinson's Disease and a Secondary Cognitive Task on Postural Balance. *North American Congress on Biomechanics*, Virtual. August, 2021.
- Scavarda M, Nagel K, **Peterson DS**, Plesher K, Moskowitz S, Ivy C, Denney L. The Impact of Visual Cueing on Gait Velocity in those with Parkinson's Disease with Freezing of Gait International *Parkinson and Movement Disorder Society Virtual Congress*. Virtual. September 17-22, 2021.
- Barajas J, Denney L, Mehta SH, Peterson DS^c. Characterizing the Impact of Baseline Cognitive Status on Dual Task Performance While Backward Reactive Stepping *American Society of Neurorehabilitation*. Virtual. April 5-9, 2021
- Monaghan AS, Finley J, Mehta SH, Peterson DS^c. Adaptation of dual-task performance with reactive steps in people with PD. *American Society of Neurorehabilitation*. Virtual. April 5-9, 2021
- Phan V, **Peterson DS**, Richmond S, Lee, H. Effects of Parkinson's Disease and a Secondary Cognitive Task on Standing Postural Stability. International Conference on Neural Rehabilitation (ICNR) 2020
- Monaghan AS, **Peterson DS**. Torque Responses to In-Place Perturbations in People with Mild Multiple Sclerosis. *10th International Symposium on Gait & Balance in Multiple Sclerosis*. Virtual. October, 2020
- Van Liew C, Gudesblatt M, Srinivasan J, Kaczmarek O, Golan D, Doniger G, Wilken J, Ofori E, **Peterson DS**. Cognitive Domains and Dual Task-Walking in Persons with Multiple Sclerosis. *10th International Symposium On Gait & Balance in Multiple Sclerosis*. Virtual. October, 2020
- Van Liew C, Dibble LE, Foreman KB, & **Peterson DS**. Change in 'First-Trial' Performance After Protective Step Practice in People with Multiple Sclerosis. *2020 Consortium for Multiple Sclerosis Centers*. August 3rd, 2020
- Monaghan A, Van Liew C, Dibble LE, Schaefer SY, Hunt GR, Foreman KB, **Peterson DS**. Understanding Generalization after Perturbation Practice in Multiple Sclerosis. *9th International Symposium On Gait & Balance in Multiple Sclerosis*. Denver, CO, 2019
- Barajas J, Nadkarni A, Denney L, Mehta S, **Peterson DS**. Protective Postural Control with Divided Attention: Effects of Parkinson's Disease. *International Society of Posture and Gait Research*. Edinburgh, Scotland, June 30-July 4; 2019.
- Roman G, **Peterson DS**, Vidt ME. Quantification of ballistic signing: Does native and non-native status matter? *Combined Sections Meeting of the American Physical Therapy Association*, Feb. 2019.
- Peterson DS**, Lohse KR, Mancini M. Anticipatory postural responses prior to protective steps are not different in people with PD who do and do not freeze. *International Freezing of Gait Society*, Leuven, Belgium, 2018
- Peterson DS**, Lohse KR, Mancini M. How anticipatory postural adjustments affect protective steps: A step-by-step multi-level analysis *American Society of Neurorehabilitation*, San Diego, CA. 2018
- Muthukrishnan N, **Peterson DS**. Choice of stepping limb after postural perturbations in people with PD, does disease severity or limb dominance matter? *American Society of Neurorehabilitation*, San Diego, CA. 2018
- Roman G, **Peterson DS**, Vidt ME. Work Envelope in Native and Non-Native Signers. *American Society of Biomechanics*, 2018
- Barajas J, Mehta S, **Peterson DS**. First trial protective step performance before and after short-term perturbation practice in people with Parkinson's disease. *American Society of Neurorehabilitation*. Baltimore, MD, 2017
- Peterson DS**, Kratz K, Foreman BK, Dibble L. Protective stepping in people with MS: effects of a single bout of practice. *International Society of Posture and Gait Research*. Ft Lauderdale, FL. 2017

Symposia and Invited Conference Presentations

** Indicates international conference or symposium

**Symposium Speaker, International Society of Posture and Gait Research "Fear in motion: Exploring psychological factors behind falling in older adults and Neurodegeneration"	2025
**Roundtable lead / speaker, World Parkinson's Congress "The role of the physical therapist in addressing non-motor symptoms"	2023
Invited Speaker: MDS- PAS 8th Annual Movement Disorders School for Neurology Residents	2023
**Symposium Speaker, International Society of Posture & Gait Research "Subcortical contributions to reactive balance"	2023
**Invited Speaker: International Symposium of Gait and Balance in MS "Neural control of reactive balance in people with MS"	2023
Symposium Speaker, Combined Sections Meeting (CSM) Neuroimaging of Reactive Balance Control: Identifying Therapeutic Targets to Inform Fall Prevention	2023
**Invited Speaker: INSIGHT, Living Brave with PD: PD Warrior Conference "Freezing of Gait and Cognition: Opportunities for Rehabilitation"	2022
**Invited Speaker: Movement Disorders Society- European Section: Multidisciplinary Teamwork in PD, Atypical PD & Dystonia: Innovations & Challenges. "Impacts of FOG on Cognition: Current Knowledge and Clinical Application"	2022
Symposium Speaker, Combined Sections Meeting (CSM) "Fake News: Understanding limitations and pitfalls of scientific literature"	2019
**Invited Speaker: International Symposium of Gait and Balance in MS "Compensatory Stepping in people with Multiple Sclerosis"	2019
**Invited Speaker: International Freezing of Gait Conference (Leuven, Belgium) Posture and Gait Control in People with PD who Freeze	2018
Symposium Speaker, 2017 Combined Sections Meeting (CSM) "Cognitive impairment in PD: Understanding and unlocking freezing of gait"	2017
Invited Speaker, 2017 Washington State Traumatic Brain Injury Conference "Linking Mobility and Cognition: Implications for Rehabilitation"	2017
**Symposium Speaker, 2014 International Society of Posture and Gait Research "Supraspinal Control of Locomotion in PD- Implications for Rehabilitation"	2014
Invited Speaker, OHSU Parkinson Center: Managing & Treating PD "Integrating cognitive tasks into physical therapy"	2014

Invited Academic Research Presentations

** Indicates international presentation

**Drug-related falls in older adults: Utilization of the SENIOR ALERT Swedish Registry University of Jonkoping	2024
**Assessing deficits and possible treatments of reactive balance in neurological groups University of Bologna	2024
**Neural mechanisms of reactive balance in people with PD and MS Karolinska Institute	2024

Reactive balance in People with Parkinson's disease Oregon Health & Science University, (Neurology Grand Rounds)	2024
Characterization and treatment of reactive balance in neurological populations Pennsylvania State University (Action Club)	2023
**Protective postural control in people with PD: Deficits & potential for rehabilitation Tel Aviv University & Sheba Medical Center, Israel	2021
Parkinson's, Motor Disorders & the Community ASU TRiP Talk	2021
Dual Task Postural Control People with PD Oregon Health & Science University	2020
Protective Step Training in PD: Potential for Rehabilitative Application University of Southern California	2020
One Step Backward and Two Steps Forward: Protective Posture in Clinical Populations Arizona State University; Speech & Hearing Science	2019
Protective Step Dysfunction and Training in Clinical Populations University of Utah	2018
Protective postural control in clinical populations: Potential for clinical intervention? Colorado State University	2017
Understanding and treating mobility dysfunction in clinical populations Arizona State University, Biomedical Engineering Seminar Series	2016
Compensatory Stepping in Parkinson's disease and Multiple Sclerosis University of Utah	2015
Postural Motor Learning in Parkinson's Disease: Implications for Rehabilitation Utah State University	2014
Biomechanical and Neural Factors Associated with Freezing in PD Utah State University	2013
Biomechanical and Neural Factors Associated with Freezing of Gait in PD Oregon Health Sciences University	2012
Freezing of Gait in Parkinson Disease Illinois State University	2012
Metabolic Cost of Walking in Older Adults and Mechanisms of ACL Injury in Young University of Illinois in Chicago	2009
Effects of age on Coactivation, Variability, and Joint Kinetics During Walking Mayo Clinic, Rochester, MN	2008

Honors & Awards

Attendee/Learner: NIH-Sponsored Course in Reproducible Rehabilitation (ReproRehab)	2024
Outstanding Faculty Mentor Award Nominee- Arizona State University Graduate College	2021
Outstanding Teaching Award Nominee- 5 th Annual CHS Staff and Faculty Awards	2020
Outstanding Faculty Mentor Award Nominee- Arizona State University Graduate College	2020
Attendee: NIH-Sponsored "Training in Grantsmanship for Rehabilitation Research" workshop	2017
Manuscript selected as "Editor's Choice" (Archives of Physical Medicine & Rehabilitation)	2016
Travel Grant Recipient- 2016 World Parkinson Congress	2016
Attendee, NIH-sponsored "Training Course in fMRI" (Univ. of Michigan)	2012

2 nd Place- Graduate Research Symposium; (Washington University in St. Louis)	2011
Selected as a Funded Pre-Doctoral Trainee on an NIH CTSA (T32 HD007434; PI: Mueller); Washington University School of Medicine; Program in Physical Therapy	2009
B.K. & Betty Stevens Undergraduate Scholarship (University of Florida)	2006
Anderson Scholar for Academic Achievements (University of Florida)	2005

Mentee awards (while under supervision of Dr. Peterson)

College of Health Solutions Christine Wells Outstanding Research Award (Monaghan)	2023
College of Health Solutions Christine Wells Outstanding Research Award (Van Liew)	2021
Graduate & Professional Student Association Outstanding Research Award (Monaghan)	2020
School of Biological and Health Systems Engineering Merit Award Stipend (Muthukrishnan)	2018
Northern Arizona University Annual 3-minute Research Presentation (3 rd place; Peters)	2017

SERVICE

Service for Arizona State University

University:

Faculty Sponsor: Recreational Climbing Club	2025 – Present
Faculty Sponsor: Dance Club	2025 – Present

College:

Member: CHS Faculty Mentoring Committee	2025 – Present
Member: CHS Lab and Clinic Safety Committee	2025 – Present
Member: CHS Research Council	2018 – Present
Member: CHS Grant Review Committee	2020 – Present
Member: Jumpstart Grant Review Committee	2019 – 2024
Co-Chair: CHS Lab and Clinic Safety Committee	2021 – 2025
Co-Chair: Faculty Mentoring Committee	2022 – 2024
Chair: Search committee for Research Faculty in “Rehabilitation”	2024
Chair: Search committee for Tenure Track Faculty in “Rehabilitation”	2022
Member: Search committee for Tenure Track Faculty in “Human Neuroscience”	2021
Member: Search committee Center Director of “Human Performance”	2021
Member: CHS Personnel Committee	2021
Member: Faculty success hub (CHS Visioning Committee)	2018
Member: Faculty success hub (Research subcommittee)	2018

Program:

Member: Exercise & Nutrition Science PhD Program Executive Committee	2025 – Present
Member: MS in EXW Curriculum Committee	2019 – 2025
Member: MS in Biomechanics Curriculum Committee	2016 – 2018
Member: Search Committee for Tenure Track Faculty in “Biomechanics”	2017 – 2018
HPEN Health Equity Course (assisted with course development)	2022

Professional Service

Grant Review Service (national & international)

NIH Grant Review Activities:

Ad-Hoc Member: Musculoskeletal Rehabilitation Service (MRS) study section	2025
Ad-Hoc Member: NINDS G64 (NSDK) Clinical Trials study section	2024
Ad-Hoc Member: Musculoskeletal Rehabilitation Service (MRS) study section	2023
Ad-Hoc Member: NINDS ZNS1 G38 Special Emphasis Panel	2021
Ad-Hoc Member: NINDS NSD-K (Clinical Trials) Study Section	2018
Ad-Hoc Member: Special Emphasis Panel/SRG ZRG1 ETTN-C (10) B: Small Business panel: Clinical Neurophys, Devices, Neuroprosthetics, & Biosensors	2017

Dept. of Veterans Affairs Grant Review Activities

Standing Member- Rehabilitation R&D Scientific Group Review (RRD6-Chronic Medical Conditions and Aging)	2020 – 2022
Ad-Hoc Member: Rehabilitation R&D Scientific Group Review (RRD6-Chronic Medical Conditions and Aging)	2018 – 2019
SPIRE Grant reviewer (RRDS R); Rehabilitation Research and Development	2017 – 2024

NSF Study Section Grant Review Activities

Ad-Hoc Member: Program in Perception, Action, and Cognition	2018
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Congressionally Directed Medical Research Program (CDMRP)

Ad-Hoc Member: MSRP-CT-RR Panel	2022
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National Multiple Sclerosis Society

Recovering Functional Activity Grant Review Committee	2023
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International Funding Agency Review Activities:

Ad-Hoc Member: Mitacs "Accelerate" Proposal Stream (Canada)	2025
Ad-Hoc Reviewer: ParkinsonNL (Netherlands)	2025
Ad-Hoc Reviewer: MS Australia	2025
Standing grant reviewer (College of Experts): Parkinson's UK	2020 – Present
Ad-Hoc Reviewer: ZonMw Reviewer (Netherlands)	2024
Ad-Hoc Member: Israeli Ministry of Innovation, Science & Technology Grant Review	2022
Ad-Hoc Member: Mitacs "Accelerate" Proposal Stream (Canada)	2022
Ad-Hoc Member: Dunhill Medical Trust (UK)	2021
Ad-Hoc Member: Health Research Board, national funding agency for Ireland	2019
Ad-Hoc Member: Research Foundation Flanders (Belgium)	2017 & 2018
Ad-Hoc Member: Israeli Science Foundation	2017

Other, National Grant Review Activities

Univ. of Maryland Claude D. Pepper Older Americans Independence Center	2020
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Service to Societies

2026 World Parkinson's Congress Local Organizing Committee	2024 – Present
2026 World Parkinson's Congress Comprehensive Care Program Subcommittee	2024 – Present
2023 World Parkinson's Congress Comprehensive Care Program Subcommittee	2022-2023

Service to Journals

Associate Editor- Neurorehabilitation and Neural Repair	2025 – Present
Editorial Board- Neuroscience Letters	2024 – Present
Editorial Board- Journal of Neurologic Physical Therapy	2016 – Present
Review Editor- Frontiers in Movement Disorders	2020 – Present
Special Issue Editor (Journal of Neurologic Physical Therapy) “Physical Therapy for Parkinson’s Disease – Mechanisms and Interventions”	2017 – 2018

Ad Hoc Reviewer (**approximately 25-35 per year**) for numerous journals, including:

<i>Anatomical Record</i>	<i>J. of NeuroEng. & Rehab.</i>	<i>Psychological Research</i>
<i>Arch Phys Med & Rehab</i>	<i>J. of Motor Learning & Devel.</i>	<i>Medical Engineering & Physics</i>
<i>Behavioural Brain Research</i>	<i>J. of Sci & Medicine in Sport</i>	<i>Medicine & Sci in Sports & Ex.</i>
<i>Brain Imaging and Behavior</i>	<i>J. of Applied Biomechanics;</i>	<i>Motor Control</i>
<i>Cerebral Cortex</i>	<i>J. of Parkinson’s Disease</i>	<i>Movement Disorders</i>
<i>Clinical Biomechanics</i>	<i>J of Neural Transmission</i>	<i>Mechanisms of Aging & Devel.</i>
<i>Clinical Neurophysiology</i>	<i>J. of Neurologic PT</i>	<i>Multiple Sclerosis & Rel. Dis.</i>
<i>Disability & Rehabilitation</i>	<i>J. of Neurology</i>	<i>Neurobiology of Aging</i>
<i>Experimental Aging Research;</i>	<i>JOVE</i>	<i>Neuroimage</i>
<i>European J. of Neuroscience</i>	<i>Lancet Neurology</i>	<i>Neuroscience Letters</i>
<i>Gait & Posture</i>	<i>Peer J</i>	<i>Neurorehab. & Neural Repair</i>
<i>Human Brain Mapping</i>	<i>Parkinson Disease J.</i>	<i>Neuroscience and Biobehav. Rev</i>
<i>Human Movement Science</i>	<i>Parkinson’s Dis. & Rel. Dis.</i>	<i>Sensors</i>
<i>J. of Biomechanics</i>	<i>Pilot & Feasibility Studies</i>	<i>Scientific Reports</i>
<i>J. of Gerontology: Med. Sci.</i>	<i>Physiotherapy Theory & Practice;</i>	<i>Transactions on Neural Systems</i>
<i>J. of Neurology, Neurosurgery,</i>	<i>PLoS One</i>	<i>& Rehab Eng</i>
<i>& Psychiatry</i>	<i>Physical Therapy Journal</i>	

Professional Memberships

Society for Neuroscience
International Society for Posture and Gait Research
American Society of Neurorehabilitation
International Consortium of Freezing of Gait (ICFOG)

Other

Data Safety Monitoring Board for R01 funded to PI: Sommer Amundsen-Huffmaster	2025
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Community service

Community Research / Educational Presentations

“Reactive Balance in People with Neurological Conditions” Academy of Neurologic Physical Therapy Degenerative Diseases Special Interest group (ANPT, DD-SIG) https://podcasts.neuropt.org/?p=2030	2025
“Parkinson’s Podcast with Sheryl Lowenhar” Gait and Balance Explained https://17branches.org/113-gait-and-balance-explained/	2025
“What goes wrong with Balance in Parkinson’s Disease & Can we change it” American PD Association “Let’s Keep Moving with APDA” seminar series https://www.apdaparkinson.org/videos/lets-keep-moving-with-apda-what-goes-wrong-with-balance-in-parkinsons-disease-can-we-change-it/	2023

"Falls, Balance & MS- causes and possible treatments" MS support groups (Phoenix)	2022
"Falls, Balance, and Parkinson's Disease" PD support groups (Phoenix)	2022
"Balancing activity, safety, and quality of life" Braille Institute Quarterly Fall Prevention Seminar	2020 / 2021
"PT and PD: Balance and physical therapy in people with Parkinson's disease" Arizona Rehab PT Clinic	2019
"Balance and posture in Parkinson's disease" Scottsdale Parkinson's disease support group	2018
"Parkinson's Disease: Symptoms and Signs" Cache Valley Senior Center, Logan UT	2016
"Walking & Balance in Parkinson's Disease: Latest Research" Logan, UT Parkinson's Disease Support Group	2013
"Imagine That! Imagined walking to gain insights into locomotor control in PD" Young Onset PD Support Group, St. Louis, MO	2013

Community Engagement

"New Adventures in Learning" (NAIL) Continued adult education program Instructor / Presenter	2017- 2020
Hereditary Neuropathy Foundation- "Movement is Medicine" Summit (Phoenix, AZ) Co-presenter / researcher	2018
Hereditary Neuropathy Foundation Center for Excellence for CMT (ASU & BNI) contributor	2021 – present

TEACHING & MENTORING

Teaching (ASU)

Instructor of Record

"Introduction to Kinesiology" (KIN 101) <i>Undergraduate, in-person delivery</i>	2024 – Present
"Motor Behavior" (KIN345) <i>Undergraduate, in-person delivery</i>	2021 – Present
"Neural Aspects of Movement and Rehabilitation" (KIN 424 / 598) <i>Undergraduate, in-person delivery</i>	2016 – Present

Teaching (Other Institutions)

Instructor of Record

"Neural Aspects of Rehabilitation"; MS in Exercise Science Curriculum Utah State University	2016
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Guest Lecturer

"Motor Control"; Doctorate in Physical Therapy Curriculum University of Utah	2015 – Present
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“Biocontrol”; Movement Science PhD Curriculum Washington University in St. Louis	2012
“Development, Control, and Analysis of Human Movement”; Post Professional DPT Washington University in St. Louis	2012
“Neuroscience” Doctorate in Physical Therapy Curriculum Washington University in St. Louis	2011 – 2012

Mentoring - ASU

Faculty Mentoring

<i>Arizona State University</i> Joseph Roberts (Faculty Mentee; College of Health Solutions)	2023 – Present
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Postdoctoral Mentoring

<i>Arizona State University</i> Emily Tobin, PhD (DSP-primary mentor)	2025 – Present
Wendy Ahn, PhD (DSP-primary mentor)	2025 – Present
<i>University of Utah</i> Brian Loyd, PhD (Co-mentored with Lee Dibble)	2018 – 2021
<i>Currently Faculty Member at University of Montana</i>	

Student Mentoring

Committee Chair

Graduate: PhD

Chaerin Hong, MS (Mechanical Engineering) Title: TBD Committee Co-Chair: Hyunglae Lee	2025 – Current
Alexander Belnavis, MS (Exercise & Nutrition Science; CHS) Title: TBD Committee Co-Chair: Edward Ofori	2025 – Current
Andrew Monaghan (Exercise & Nutrition Science; CHS) Title: Neural Control of Protective Stepping in Neurological Populations; <i>Successfully defended thesis: May 2023</i> Received the CHS 2021 Christine Wells Outstanding Research Award <i>Fall 2024- Faculty (tenure track) at Queens University Belfast, Ireland</i>	2019 – 2023
Charles Van Liew (Exercise & Nutrition Science; CHS) Title: Dual-Task Walking in MS: Correlates, Moderators, and Consequences <i>Successfully defended thesis: April 2021</i> Received the CHS 2021 Christine Wells Outstanding Research Award <i>Faculty, Glendale Community College</i>	2018 – 2021

Graduate: MS

Alexander Belnavis (MS; Speech & Hearing Science) Title: Relating speech and gait outcomes in people with PD Committee co-chair: (co-chair: Daliri)	2021 – 2023
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Jordan Barajas (MS: Exercise, Nutrition, & Wellness; CHS) 2017 – 2020
 Title: Effects of Dual Tasking on protective stepping in people with PD
Thesis successfully defended 11/2020
Currently working in industry

Marvin Vergara (MS: Applied Project; Fulton Schools of Engineering) 2019
 Title: Characterizing electromyographic activity in people with PD
Project successfully defended 5/2019
Currently working in industry

Matthew Gerveler (MS Applied Project; Fulton Schools of Engineering) 2017 – 2018
 Title: Characterizing protective stepping in healthy young adults via TMM
Project successfully defended, 05/2018
Currently working in industry

Undergraduate Honors Theses

Skyla Cochrane (Barrett Honors Senior Thesis) 2024 – 2025
 Title: Strength as a predictor of training responsiveness in people with PD

Sean Bowman (Barrett Honors Senior Thesis) 2023 – 2024
 Title: Anticipatory vs. expected reactive stepping in people with PD

Devin Nikjou (Barrett Honors Senior Thesis) 2023 – 2024
 Title: EMG responses in reactive balance in people with PD

Ayden Salek (Barret Honors Senior Thesis) 2023 – 2024
 Title: EMG responses to reactive balance training in neurological populations

Sam Webster (Barrett Honors Senior Thesis) 2022 – 2023
 Title: Parkinsonian Symptoms in Patients with REM Sleep Behavior Disorder

Tea McCormick (Barrett Honors Senior Thesis, BME) 2021 – 2023
 Title: assessing cognitive tests across domains in people with PD & FOG

Cal Bosard (Barrett Honors Senior Thesis, CHS) 2021 – 2022
 Title: Characterizing reactive lateral stepping in people with PD

Jelena Mitrovic (Barrett Honors Senior Thesis, CHS) 2021 – 2022
 Title: Effects of Ballet on Balance in Individuals with Down Syndrome

Becca Sturm (Barrett Honors Senior Thesis, CHS) 2021 – 2022
 Title: Dual tasking in people with and without PD

Finn Larsen (Barrett Honors Senior Thesis, College of Nursing) 2019 – 2020
 Title: Transfer of skills across hockey & Golf

Randall Arroyo (Barrett Honors Thesis, Kinesiology) 2018 – 2019
 Title: Generalization of protective stepping across lateral stepping directions

Rachael Nowak (Barrett Honors Thesis, Kinesiology) 2017 – 2018
 Title: Generalization of protective stepping: forward and backward steps

Rachael Preshler (Barrett Honors Senior Thesis, Kinesiology) 2017 – 2018
 Title: Relating reactive stepping to falls in community dwelling older adults.

Committee Member

Graduate: PhD

Soubhagya Nakak (PhD in Mechanical Engineering) Title: TBD Committee Chair: Hyunglae Lee	2023 – Present
Jordan Barajas (PhD in Exercise & Nutrition Science; CHS) Title: TBD Committee Chair: Ed Ofori	2023 – Present
Ferdinand Delgado (PhD in Exercise & Nutrition Science; CHS) Title: Investigating the Interplay between Executive Function, Apolipoprotein E4, and Falls in Older Adults with Normal Cognition, Mild Cognitive Impairment, and Alzheimer's Dementia Committee Chair: Cheryl Der Ananian <i>Thesis Defense: May 2023</i>	2018 – 2023
Josh Beaumont (PhD in Exercise & Nutrition Science, CHS) Title: Energy expenditure of walking in adults: influence of body mass index, age, height, and sex Committee Chair: Glenn Gaesser <i>Thesis Defense: Nov. 2023</i>	2017 – 2023
Seong Moon (PhD in Biomedical Engineering; Fulton Schools of Engineering) Title: Understanding the Effect of Epidural Steroid Injection in Lower Back Pain using Inertial Measurement Unit Wearable Device Committee Chair: Thurmon Lockhart <i>Thesis Defense: May 2023</i>	2017 – 2023
Kaycee Glatke (PhD in Biomedical Engineering, Fulton Schools of Engineering) Title: Low-Intensity Blood Flow Restriction Training as a Pre-Operative Rehabilitative Modality to Improve Post-Operative Outcomes for ACL Reconstruction Committee Chair: Thurmon Lockhart <i>Thesis successfully defended, May 2022</i>	2017 – 2022
Victoria Smith (PhD in Biomedical Engineering; Fulton Schools of Engineering) Title: Understanding the application and limitations of Lyapunov exponents for fall risk assessments Committee Chair: Thurmon Lockhart <i>Thesis Defense: 10/2019</i> Currently working in industry	2015 – 2019
Gretchen Roman (PhD in Exercise & Nutrition Science; College of Health Solutions) Title: 'Upper extremity biomechanics in native and non-native sign language Committee Chair: Swan <i>Thesis Defense: 11/2018</i> Currently in a postdoctoral position- University of Rochester	2015 – 2019

Graduate: MS

Lexi Kasofsky (MS in Exercise & Wellness; CHS) Title: Blood flow restriction in Stroke Survivors Committee Chair: Siegler	2022 – 2023
Kalyani Datta (Speech Language Pathology) Title: Effects of Levodopa on Cognitive Control in Parkinson's Disease Committee Chair: Brewer	2022 – 2022
Madeline Hooten (Speech Language Pathology) Title: Effects of Gender on Cannabis consumption in people with PD Committee Chair: Ofori	2022 – 2022

Kwanghee Jo (MS in Biomedical Engineering) Title: The Use of a Vibrotactile Feedback for Improving Standing Posture Stability Committee chair: Lee	2022 – 2022
Xun Yu (MS in Biomedical Engineering) Title: Dynamic stability assessment of walking while wearing passive back support Exo-suit Committee chair: Lockhart	2022 – 2022
Arianna Marquez (MS in Biomedical Engineering; Applied Project) Title: Gait Symmetric Adaptation and Retention to Short-Term Visual Distortion and Split-Belt Treadmill Walking Committee chair: Lee	2022 – 2022
Theophilus Annan (MS Applied Project; Fulton Schools of Engineering) Title: Backward reactive stepping in stroke survivors Committee Chair: Honeycutt	2020 – 2021
Niveditha Muthukrishnan (MS in Biomedical Engineering) Title: Evaluation of a Soft Robotic Knee Exosuit for Assistance in Stair Ascent Committee Chair: Polygerinos Currently completing an PhD at ASU	2016 – 2018
Chloe Houlihan (MS Applied Project) Title: Testing the Relationship Between Dexterity and Cognitive Ability in Healthy Older Adults Committee Chair: Schaefer Currently working in industry	2017 – 2018
Troy Ramos (MS Applied Project; Fulton Schools of Engineering) Title: Quantifying Local Dynamic Stability in Healthy and Fall Prone Adults Committee Chair: Lockhart Currently working in industry	2017 – 2018
<u>Undergraduate Honors Theses</u>	
Lauren Berrett (Barrett Honors Senior Thesis, Engineering) Title: gait in people with multiple sclerosis Committee Chair: Lee	2020 – 2021
Danielle Keim (Barrett Honors Senior Thesis, CHS) Title: Postural control after varying interventions in children with Autism Committee Chair, Ringenbach	2019 – 2020
Cheng Chang (Barrett Honors Senior Thesis, CHS) Title: App Development for facilitating PT at-home exercise prescription Committee Chair, Holzapfel	2019 – 2020
Jonathan Talos (Barrett Honors Senior Thesis, Fulton Schools of Engineering) Title: Gait monitoring for transtibial amputees Committee Chair: Schaefer	2019
Sydney Connor (Barrett Honors Senior Thesis, Fulton Schools of Engineering) Title: Utilizing Motor Practice to Prime Motor Performance Committee Chair: Schaefer PhD Candidate, Johns Hopkins University	2016 – 2017
<u>Other</u>	
Isabel Rosas (SCENE High-school Scholar; Bioscience High School) Topic: Motor Learning and Cognition in people with PD	2022 – 2023

Achintya Sai (SCENE High-school Scholar; Bioscience High School) Topic: CVLT performance in people with MS <i>2nd place in Behavioral & Social Science Division, 1st place award from American Psychological Association, 2023 Arizona Science & Engineering Fair</i>	2022 – 2023
Katherine Shi (Basis High-school Scholar) Topic: Reactive balance and proprioception in people with PD	2022 – 2023
Hanna Johansson, PhD (Visiting PhD student; Karolinska Institute) Topic: Cognition and motor learning in people with PD <i>Currently on faculty at Karolinska Institute</i>	2020
Anandita Nadkarni (Summer Intern; Milburn High school) Topic: Protective postural control in people with PD	2017

Other Research Mentoring at ASU

I provide for-credit research experiences and mentorship to undergraduate (UG) & Graduate (Grad) students each semester

Mentoring Outside of ASU

Committee Chair / co-chair

Graduate: MD

University of Arizona, School of Medicine

Orlando Acuna Project: Dual tasking in Parkinson's disease- clinical samples	2022 – 2024
Milan Oxspring Project: Changes in EMG across reactive stepping training in those with PD	2021 – 2024
Andrew Acosta ("Pathway Scholar") Project: Relating Cognition and Depression to learning in people with PD	2020 – 2024

Graduate: Doctorate in Physical Therapy

Northern Arizona University (NAU), Program in Physical Therapy

Alyssa Martin Thesis: Impacts of "laser shoes" on freezing episodes in people with PD * Joint project with Rachael Nowak <i>DSP Co-Chair; Linda Denney (NAU)</i>	2020 – 2021
Rachael Nowak Thesis: Impacts of "laser shoes" on freezing episodes in people with PD * Joint project with Alyssa Martin <i>DSP Co-Chair; Linda Denney (NAU)</i>	2020 – 2021
Madison Scavarda Thesis: Impacts of "laser shoes" on freezing episodes in people with PD * Joint project with Kenneth Nagel <i>DSP Co-Chair; Linda Denney (NAU)</i>	2020 – 2021
Kenneth Nagel Thesis: Impacts of "laser shoes" on freezing episodes in people with PD * Joint project with Madison Scavarda <i>DSP Co-Chair; Linda Denney (NAU)</i>	2020 – 2021

- Sidney Gutierrez** 2019 – 2020
Thesis: Dual tasking and postural control in community dwelling older adults
DSP Co-Chair; Linda Denney (NAU)
- Wendy Peters** 2017 – 2018
Thesis: Understanding Stroke: A Physical Therapy Perspective
DSP Co-Chair; Pamela Bosch (NAU)
**Won 3rd place at Annual NAU 3-minute Research Symposium*
- Lisa Britton** 2017 – 2018
Thesis: Prioritization of a Cognitive Task and an Increased Risk of Falls in Community Dwelling Older Adults; *Joint project with Alexa Zienka
DSP Co-Chair; Pamela Bosch, (NAU)
- Alexa Zienka** 2017 – 2018
Thesis: Prioritization of a Cognitive Task and an Increased Risk of Falls in Community Dwelling Older Adults; *Joint project with Lisa Britton
DSP Co-Chair; Pamela Bosch (NAU)
- Jenna Martinez** 2016 – 2017
Thesis: Dual Task Performance in people with Parkinson's Disease
DSP Co-Chair; Linda Denney (NAU)

Graduate: MS

Oregon Health & Science University

- Bauke Dijkstra** (MS, Kinesiology) 2013 – 2014
Thesis: Older Adults Improve Postural Control Through Perturbation Training
Visiting Scholar from the University of Groningen, The Netherlands
DSP Committee member; Chair: Yvo Kamsma

Committee Member / Dissertation reader

Graduate: PhD

Colorado State University

- Sutton Richmond** (PhD, Human Bioenergetics) 2018 – 2020
Thesis: Bridging the Callosal Gap in Gait: A mechanistic Evaluation of White Matter's Role in Bilateral Coordination
Committee Member; Chair: Brett Fling

Ben Gurion University, Be'er Sheva, Israel

- Uri Rosenblum Belzer** (PhD) 2021
Thesis: Mechanisms of Balance Recovery During Walking in Complex Environments in Healthy Young and Older Adults
Role: External thesis reviewer; Chair: Drs. Melzer & Plotnik

University of New South Wales

- Steven Phu** (PhD) 2025
Thesis: Understanding the Neuromuscular Mechanisms of Perturbation-Based Balance Training in Older People
Role: External Reader