**Carolin Curtze, PhD**

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Research Interests

My research focuses on improving functional mobility and reducing falls in people with neurological dysfunction. The emphasis of my work is on concepts of dynamic stability and how Parkinson’s disease and antiparkinsonian medication affects postural control and dynamic stability during walking and turning. I develop new ways to quantify dynamic balance continuously during daily life using inertial sensors to reveal instability and fluctuations in sensorimotor control. My goal is to improve rehabilitation approaches and optimize individualized patient care.

Keywords: neuromechanics | gait | balance | turning | dynamic stability | inertial sensors | aging | Parkinson

Employment

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| 2018 – present | **Assistant Professor**  Department of Biomechanics, University of Nebraska Omaha, Omaha, NE, USA |
| 2017 – 2018 | **Senior Research Associate**  Department of Neurology, Oregon Health & Science University, Portland, OR, USA |
| 2012 – 2017 | **Postdoctoral Fellow**  Department of Neurology, Oregon Health & Science University, Portland, OR, USA  Mentor: Prof. Dr. Fay B. Horak  Research area: *Balance and Gait Disorders in Parkinson’s Disease* |
| 2003 – 2004 | **Graduate Research Assistant**  Department of Sport Sciences, Justus Liebig University Giessen, Germany |

Education

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| 2005 – 2012 | **Ph.D. in Medical Sciences**  Department of Rehabilitation, University of Groningen, The Netherlands  Advisors: Prof. Dr. Klaas Postema  Prof. Dr. Bert Otten  Dr. ir. At L. Hof  Honors: ‘Cum Laude’, highest grade in the Netherlands, awarded to the top 5%  Thesis topic: *Neuromechanics of Movement in Lower Limb Amputees* |
| 2004 – 2005 | **Master of Arts in Sport Science**  Department of Sport Sciences, Justus Liebig University Giessen, Germany  Minors: Psychology and German Studies  Honors: Graduated with Distinction  Thesis topic: *Representation of Complex Sequential Skills in Human Very Long-term Memory* |
| 1999 – 2003 | **First State Examination in Teacher Education**  Justus Liebig University Giessen, Germany  Majors: Physical Education, Mathematics and German Studies  Honors: Graduated with High Distinction  Thesis topic: *Effect of Different Running Speeds on Movement Patterns of Novice and*  *Expert Runners – A Kinematical Analysis* |

Honors and Awards

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| 2017 | 1st place for Educational Research at the OHSU Symposium on Educational Excellence *Wearable inertial sensors allow for quantitative assessment of arthroscopic skill in a cadaveric knee model* |
| 2015 | Paper of the Month, School of Medicine, OHSU, Portland, OR, USA  *Levodopa is a Double-Edged Sword for Balance and Gait in People with Parkinson’s Disease* |
| 2011 | Ph.D. Top Publication Award, Graduate School of Medical Sciences, Research Institute SHARE, University of Groningen, The Netherlands  *Balance recovery after an evoked forward fall in unilateral transtibial amputees* |
| 2009 | Ph.D. Top Publication Award, Graduate School of Medical Sciences, Research Institute SHARE, University of Groningen, The Netherlands  *Comparative roll-over analysis of prosthetic feet* |

Grant Support

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| 2022-2024 | University of Nebraska Collaboration Initiative/ Team Seed Grant (State of Nebraska), Curtze (PI)  *Brain signal oscillations during gait in Parkinson's disease: potential for treatment* Gait and balance disturbances are common and highly debilitating clinical manifestations of Parkinson’s disease (PD). While dopamine replacement therapy and dopamine agonists remain the initial standard-of-care and very effective in treating the motor symptoms of PD, medication side effects, motor fluctuations, and lack of symptom control are frequently problematic. Therapeutic deep brain stimulation (DBS) is a procedure employed when motor fluctuations appear, medications are not effective at controlling tremor, and/or medications result in side effects that interfere with quality of life. DBS leads to a reduction in the pathological synchronization seen in PD. This pathological synchronization is linked to disease-specific motor symptoms. The mechanism(s) by which electrophysiological abnormalities across the different frequency bands are associated with specific motor complications including locomotor dysfunction in PD remains unclear. Prior work in this arena was limited in frequency band analysis, due to technical constraints. Using a population of patients implanted with standard clinical bilateral subthalamic (STN) DBS leads, connected to the Summit RC+S (Medtronic), a research-enabled fully implantable pulse generator (IPG) capable of delivering standard clinical DBS, but also of brain sensing and adaptive stimulation, we will evaluate fluctuations in electrophysiological signals in response to movement, in subjects with PD OFF and ON their anti-parkinsonian medication. Specifically, we will use a research-enabled IPG that has the capability of sensing and storing local field potentials (LFPs) recorded from implanted electrodes in the STN a highly interconnected node in the basal ganglia. We propose a novel approach that integrates wireless sensors and recording of electrophysiological signals from STN across a wide range of LFP frequencies. First, we will characterize oscillatory changes during different phases of the gait cycle during walking and turning (Aim 1). Subsequently, we will explore the effect of subject PD medication during movement and its association with PD motor symptoms (Aim 2). |
| 2021-2022 | Medtronic, Abosch (PI) Role: Site-PI  *DBS Electrode Switching Patterns in Parkinson’s disease* Therapeutic deep brain stimulation (DBS) leads to a reduction in pathological synchronization seen in Parkinson’s disease. While continuous high frequency stimulation is effective, we hypothesize that stimulation patterns (e.g., electrode switching (ES) patterns) designed to better target excessive synchrony in a patient-tailored manner may result in more efficient and effective therapy with fewer side effects. |
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| 2020 – 2023 | NIH NIGMS, P20GM109090, Curtze (Project PI)  *Visual control of locomotion in people with Parkinson’s disease* To navigate efficiently through complex natural environments, eye movements need to be attuned to the locomotor task. In Parkinson’s Disease, impairments in eye movements and cognition have been linked to reduced locomotor performance, but the interaction between visual, cognitive and locomotor systems is incompletely understood. Building upon technological advances, this project aims to determine the contribution of visual process on gait outcomes in people with PD in complex real-world settings. |
| 07/18 – 06/21 | NASA EPSCoR, 80NSSC18M0076, Mukherjee (PI) Role: Co-PI (25%)  *MORS: Modular Robotic Suit as an exercise system for maintenance of muscle strength of astronauts during long-term space missions* The goal of this project is to determine and test modular robotic exercise devices for astronauts. |
| 2020 – 2021 | ORCA – FUSE, Mavrov (PI), Curtze, (Mentor)  *The effect of dual-tasking on postural sway and eye dilation* The goal of this eye-opening project is to determine the relationship between cognitive effort and increase in postural sway during dual-tasking. |
| 07/19 – 12/20 | Nebraska Research Initiative/Collaboration Initiative Planning Generation Grant (State of Nebraska), Curtze (PI)  *Visual control of locomotion in people with Parkinson’s’ Disease* The goal of this funding is to support: 1) identification specific extramural funding opportunities that would grow its collective research portfolio; 2) identification knowledge and expertise gaps that must be addressed in order to prepare a competitive extramural research proposal; 3) facilitation study design and/or modest data collection; and 4) preparation extramural funding applications. |
| 2017 | Movement Disorders Society Travel Grant |
| 02/16 – 08/17 | Medical Research Foundation of Oregon - Early Clinical Investigator Award, Curtze (PI)  *The Turning Point: Dynamic Stability in People with Parkinson’s Disease* The purpose of this project is to characterize the effect of levodopa-induced dyskinesia and impulse control disorder on turning impairments in people with Parkinson’s disease. |
| 09/16 – 05/19 | NIH NIA, El-Gohary & Horak (PI) Role: Postdoctoral researcher  *Mobility Life: Monitoring Mobility in Daily Lives of People with Neurological Disease* The major goals of this project are to develop an instrumented ankle wrap for continuous monitoring of gait, and to determine which measures of mobility are most indicative of fall risk. |
| 05/14 – 03/19 | NIH/NIA R37 (AG006457, Years 30-34) Horak (PI)  Role: Postdoctoral researcher  *Peripheral & Central Postural Disorders in the Elderly* This is the first study to relate integrity of the brain’s postural/locomotor circuits to objective measures of balance and gait disorders in patients with idiopathic Parkinson’s disease compared to patients with Frontal Gait Disorders (e.g., vascular parkinsonism). This project will improve our understanding of the role of the frontal cortex in balance and gait and how cognitive impairments relate to postural disorders with the goal of improving mobility rehabilitation in the elderly. |
| 06/14 – 05/19 | SBIR Phase I from NIH/NIA 1 R43 AG04486301 El-Gohary & Horak (Co-PI)  Role: Postdoctoral researcher  *Monitoring Balance and Gait Disorders with the “Home Objective Mobility Exam (HOME)”* The goal of this project is to determine the feasibility of developing a self-administered balance and gait test for patients with mobility disability. This novel, Home Objective Mobility Exam (HOME) will uniquely provide information about day-to-day variability, daily fluctuations, and ecological effects on gait and balance to physicians, physical therapists, and clinical trialists so they can more quickly improve interventions to prevent or limit mobility disability. |
| 04/12 – 03/14 | NIH/CHHD/NCMRR 1 R41 HD071760 (Years 1-2) Horak (PI, STTR)  Role: Postdoctoral researcher  *A Short Instrumented Test of Mobility for Neurological Disorders* The goals of this project are to develop algorithms for automatic metrics and a composite ‘Fall Risk’ score from instrumented (inertial sensors) stand and walk test (ISAW) and to integrate the ISAW into the proprietary user interface of the Mobility Lab system. |
| 04/12 – 03/14 | NINDS 1R41 NS07608801 (Years 1-2) Horak (PI, STTR)  Role: Postdoctoral researcher  *Continuous Monitoring of Turning in Patients with Parkinson’s Disease* The long-term goal is to develop and commercialize a unique system to measure mobility (gait and dynamic balance) using wearable sensors throughout the day. |
| 2009 | Stichting Beatrixoord Noord-Nederland, Curtze (PI)  *Walking and Balance Capacity in Lower Limb Amputees* |
| 2006 | OIM Foundation, Curtze (PI) *Interaction of Prosthetic Foot Properties and Individual Motor Capacity* |
| 2006 – 2012 | Ubbo Emmius Ph.D. Scholarship, University of Groningen, The Netherlands |

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| **Title:** Rhythmic motor coordination abilities and cross-frequency coupling of cortical dynamics in early PD  **Awarding Organization:** Federal  **Amount:** $302323  **Funding Directly Related:** Basic Research  **Primary Investigator:** Dotov, D.  **Investigators:** Curtze, C. |
| **Abstract:** The objective of the propose research is to improve the diagnostic measures for early Parkinsons disease (PD) by investigating challenging rhythmic coordination and how it is associated with a specific kind of coordination of neural dynamics known as cross-frequency coupling (CFC). PD leads to reduced ability to independently coordinate multiple joints and segments. This type of impairment has not been studied sufficiently in PD, especially in the early stages of the disease when more challenging rhythmic coordination needs to be tested. In the general population, when asked to produce a rhythmic tapping task, participants have a tendency to simplify the rhythmic intervals into durations that are integer ratios of each other. The complexity of these ratios is easily quantifiable, providing a convenient index of difficulty and rhythmic ability. The first aim of this proposal is to investigate if patients with PD exhibit a stronger tendency to simplify rhythmic tapping patterns in a bimanual coordination task in comparison to healthy age-matched adults. The ability to detect impairments in rhythmic coordination across a range of difficulty levels could lead to more refined detection and tracking of symptom severity. The second aim is to test the relevance of neural CFC as a diagnostic feature in early PD. This is motivated by two observations. First, a paradoxically stronger CFC between certain EEG bands is present in PD. Second, neural CFC is a theoretical mechanism for perceiving and producing rhythms. Importantly, CFC predicts that simpler rhythms are more stable than complex rhythms because oscillatory processes with frequencies that are simple ratios of each other synchronize more easily. Hence, the theoretical hypothesis is that in PD simple ratio CFC has a dominant role at the expense of complex ratio CFC. Participants will undergo a listening task with rhythmic stimuli and concurrent EEG recordings. Analyses sensitive to CFC will include the bicoherence of the EEG signals and frequency tagging of steady-state evoked potentials. The third aim is to test whether the tendency to simplify rhythmic coordination patterns generalizes to bipedal coordination while participants are standing. This is a full-body task with much relevance to aspects of PD that can be particularly disabling in later stages. Participants will be stepping in place and maintaining the rhythm of the initial cuing stimulus which determines the relative phase between the two feet. A concomitant hypothesis in this context is that full-body coordination in PD is simplified. To this end, a dense set of kinematic markers placed across the participants body will be analyzed using a multivariate synchronization method. |

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| **Title:** Elucidating gait and balance dysfunction following thalamic and subthalamic deep brain stimulation (DBS)  **Amount:** $50000  **Funding Directly Related:** Applied Research  **Primary Investigator:** Avecillas-Chasin, J., Curtze, C. |
| **Abstract:** The primary objective of this project is to comprehensively assess the gait and balance effects of thalamic and subthalamic DBS and at the same time define the circuits that improve or impair gait. These findings will fill the current knowledge gap on how to avoid gait and balance issues in patients with PD or tremor without prior gait impairments and how to improve gait and balance in patients with gait impairment prior DBS surgery. |

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| **Title:** Dyskinesias and Dynamic Postural Stability in Parkinson's Disease  **Awarding Organization:** Federal  **Amount:** $448555  **Funding Directly Related:** Applied Research  **Primary Investigator:** Curtze, C. |

*Submitted for Review*

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| **Title:** Probing the Effects of Subthalamic Deep Brain Stimulation on Motor and Prefrontal Cortical Hemodynamics in Gait and Balance  **Amount:** $98251  **Primary Investigator:** Curtze, C.  **NU Collaboration initiative** |

Publications

[Google Scholar Citations](https://scholar.google.com/citations?user=-dWlO5QAAAAJ&hl=en&oi=sra) Total Citations=1641; h-index=19; i-10 index=28

[PubMed Bibliography](https://www.ncbi.nlm.nih.gov/sites/myncbi/1zQG6p9OhlW5I/bibliography/48979100/public/?sort=date&direction=descending)

1. **Curtze C**, Shah VV, Stefanko AM, Dale ML, Nutt JG, Mancini M, and Horak FB (2024). Stride width and postural stability in frontal gait disorders and Parkinson’s disease. Journal of Neurology (*IF 6.0*)
2. **Curtze C\***, Buurke TJW\*, McCrum C\* (2024). Notes on the margin of stability. Journal of Biomechanics. doi: 10.1016/j.jbiomech.2024.112045 (*IF 2.712*) *\*all authors contributed equally to this work*
3. Rasmussen CM, Mun S, Ouattas A, Walski A, **Curtze C**, Hunt NH (2024). Curvilinear Walking Elevates Fall Risk and Modulates Slip and Compensatory Step Attributes after Unconstrained Human Slips. Journal of Experimental Biology doi: 10.1242/jeb.246700 (*IF 2.8*)
4. Hafer JF, Vitali R\*, Gurchiek R\*, **Curtze C**\*, Shull P\*, Cain SM (2023). Challenges and advances in the use of wearable sensors for lower extremity biomechanics. Journal of Biomechanics. doi:10.1016/j.jbiomech.2023.111714 (*IF 2.789*) *\*authors contributed equally to this manuscript*
5. Fallahtafti F, Bruijn SM, Mohammadzadeh Gonabadi A, Sangtarashan M, Boron JB, **Curtze C**, Siu KC, Myers SA, Yentes JM (2023). Trunk velocity changes in response to physical perturbations are potential indicators of gait stability. Sensors, 23(5):2833. doi: 10.3390/s23052833 (*IF 3.576*)
6. Rasmussen CM, **Curtze C**, Mukherjee M, Hunt NH (2022). Slipping Mechanics during Walking Along Curved Paths Depend on the Biomechanical Context at Slip Onset. *Scientific Reports.* doi: 10.1038/s41598-022-21701-7 *(IF 4.996)*
7. Shah VV, **Curtze C**, Sowalsky K, Arpan I, Mancini M, Carlson-Kuhta P, El-Gohary M, Horak FB, McNames J (2022). Inertial sensor algorithm to estimate walk distance. Sensors, 22(3), 1077. doi:10.3390/s22031077 (*IF 3.576*)
8. van Hal ES, **Curtze C\*,** Postema K, Hijmas JM, Otten E (2021). Frontal plane roll-over analysis of prosthetic feet. Journal of Biomechanics. (125) 110610. doi:10.1016/j.jbiomech.2021.110610 (*IF 2.712*) *\*Corresponding author*
9. Mancini M, Shah VV, Stuart S, **Curtze C**, Horak FB, Safarpour D, Nutt JG (2021). Measuring freezing of gait during daily-life: an open-source, wearable sensors approach. Journal of NeuroEngineering and Rehabilitation. doi: 10.1186/s12984-020-00774-3 (*IF 3.519*)
10. Shah VV, **Curtze C**, Mancini M, Carlson Kuhta P, Nutt JG, Gomez CM, El-Gohary M, Horak FB, McNames J (2020). Inertial Sensor Algorithms to Characterize Turning in Neurological Patients with Turn Hesitations. IEEE Transactions on Biomedical Engineering. (*IF 4.424*)
11. Shah VV, McNames J, Harker G, **Curtze C**, Carlson-Kuhta P, Spain RI, El-Gohary M, Mancini M, Horak FB (2020). Does gait bout definition influence the ability to discriminate gait quality between people with and without multiple sclerosis during daily life? Gait & Posture (*IF 2.349*)
12. Shah VV, McNames J, Mancini M, Carlson Kuhta P, Spain RI, Nutt JG, El-Gohary M, **Curtze C**, Horak FB (2020). Laboratory versus daily life gait characteristics in patients with multiple sclerosis, Parkinson’s disease, and matched controls. Journal of NeuroEngineering and Rehabilitation (*IF 3.519*)
13. Shah VV, McNames J, Harker G, Mancini, M, Carlson-Kuhta P, Nutt JG, El-Gohary M, **Curtze C**, Horak FB (2020). Effect of bout length on gait measures in people with and without Parkinson’s disease during daily life. Sensors, 20(20), 5769. doi: 10.3390/s20205769 (*IF 3.275*)
14. Shah VV, McNames J, Mancini M, Carlson-Kuhta P, Nutt JG, El-Gohary M, Lapidus JA, Horak FB, **Curtze C** (2020). Digital Biomarkers of Mobility in Parkinson’s Disease During Daily Living. Journal of Parkinson’s Disease. doi: 10.3233/JPD-201914 (*IF 3.698*)
15. Fino PC, Horak FB, **Curtze C** (2020). Inertial sensor-based centripetal acceleration as a correlate for lateral margin of stability during walking and turning. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 28(3), pp.629-636. doi: 10.1109/TNSRE.2020.2971905 (*IF 3.478*)   
    Also available as preprint on bioRxiv, 768192. doi: 10.1101/768192
16. Nutt JG, **Curtze C**, Hiller A, Anderson S, Larson PS, Van Laar AD, Richardson RM, Thompson ME, Sedkov A, Leinonen M, Ravina B, Bankiewicz KS, Christine CW (2020). Aromatic L-amino acid decarboxylase gene therapy enhances levodopa response in Parkinson's disease. Movement Disorders, 35(5), pp.851-858. doi: 10.1002/mds.27993 (*IF 8.324*)
17. Shah VV, McNames J, Mancini M, Carlson-Kuhta P, Spain RI, Nutt JG, El-Gohary M, **Curtze C**, Horak FB (2020). Quantity and quality of gait and turning in people with multiple sclerosis, Parkinson’s disease and matched controls during daily living. Journal of Neurology, pp.1-9. doi: 10.1007/s00415-020-09696-5 (*IF 4.204*)
18. Fallahtafti F, **Curtze C**, Samson K, Yentes J (2020). Chronic obstructive pulmonary disease patients increase medio-lateral stability and limit changes in antero-posterior stability to curb energy expenditure. Gait & Posture*, 75, 142-148. (IF 2.414)*
19. McNames J, Shah V, Mancini M, **Curtze C**, El-Gohary M, Aboy M, and Horak FB (2019). A Two-Stage Tremor Detection Algorithm for Wearable Inertial Sensors During Normal Daily Activities. 2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (pp. 2535-2538).
20. Morris R, Stuart S, McBarron G, Fino PC, Mancini M, **Curtze C** (2019). Validity of MobilityLab (version 2) for gait assessment in young adults, older adults and Parkinson's disease. Physiol Meas. doi: 10.1088/1361-6579/ab4023. (*IF 2.246*)
21. Mancini M, **Curtze C**, Stuart S, El-Gohary M, Nutt JG, & Horak FB (2018). The Impact Of Freezing Of Gait On Balance Perception And Mobility In Community-Living With Parkinson’s Disease. 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) (pp. 3040-3043). IEEE. doi: 10.1109/EMBC.2018.8512910.
22. Fino PC, Mancini M, **Curtze C**, Nutt JG & Horak FB (2018). Gait stability has phase-dependent dual-task costs in Parkinson’s disease. Frontiers in Neurology. 9:373. doi: 10.3389/fneur.2018.00373.
23. Fling BW, **Curtze C** & Horak FB. (2018). Gait asymmetry in people with Parkinson’s disease is linked to reduced integrity of callosal sensorimotor regions. Frontiers in Neurology. 9:215. doi: 10.3389/fneur.2018.00215.
24. Dale M, **Curtze C**, Nutt JG. (2018). Apraxia of gait or apraxia of postural transitions? Parkinsonism & Related Disorders. 50:19-22. doi: 10.1016/j.parkreldis.2018.02.024.
25. Rose M, **Curtze C**, O’Sullivan J, El-Gohary M, Crawford D, Friess D, & Munch J. (2017). Wearable inertial sensors allow for quantitative assessment of shoulder and elbow kinematics a cadaveric knee model. Arthroscopy: The Journal of Arthroscopic and Related Surgery.33(12):2110-2116. doi: 10.1016/j.arthro.2017.06.042.
26. **Curtze C**, Nutt JG, Carlson-Kuhta P, Mancini M, Horak FB. (2016). Objective gait and balance impairments relate to balance confidence and perceived mobility in people with Parkinson disease. Physical Therapy 96(11):1734-1743. doi: 10.2522/ptj.20150662.
27. **Curtze C**, Hof AL, Postema K, Otten B. (2016). Staying in dynamic balance on a prosthetic limb: A leg to stand on? Medical Engineering & Physics 38(6):576-80. doi: 10.1016/j.medengphy.2016.02.013.
28. Hof AL, **Curtze C**. (2016). A stricter condition for standing balance after unexpected perturbations. Journal of Biomechanics 49(4):580-5. doi: 10.1016/j.jbiomech.2016.01.021.
29. Fling BW, Dale ML, **Curtze C**, Smulders K, Nutt JG, Horak FB. (2016). Associations between mobility, cognition and callosal integrity in people with parkinsonism. Neuroimage Clinical 11:415-22. doi: 10.1016/j.nicl.2016.03.006.
30. Dale ML, Mancini M, **Curtze C**, Horak FB, Fling BW. (2016). Freezing of gait associated with a corpus callosum lesion. Journal of Clinical Movement Disorders 3:2. doi: 10.1186/s40734-016-0030-2.
31. **Curtze C**, Nutt JG, Carlson-Kuhta P, Mancini M, Horak FB. (2015). Levodopa is a double-edged sword for balance and gait in people with Parkinson's disease. Movement Disorders 30(10):1361-70. doi: 10.1002/mds.26269.
32. **Curtze C**, Hof AL, Postema K, Otten B. (2012). The relative contributions of the prosthetic and sound limb to balance control in unilateral transtibial amputees. Gait & Posture 36(2):276-81. doi: 10.1016/j.gaitpost.2012.03.010.
33. **Curtze C**, Hof AL, Postema K, Otten B. (2011). Over rough and smooth: amputee gait on an irregular surface. Gait & Posture 33(2):292-6. doi: 10.1016/j.gaitpost.2010.11.023.
34. **Curtze C**, Otten B, Hof AL, Postema K. (2011). Determining asymmetry of roll-over shapes in prosthetic walking. Journal of Rehabilitation Research and Development 48(10):1249-60.
35. **Curtze C**, Postema K, Akkermans HW, Otten B, Hof AL. (2010). The Narrow Ridge Balance Test: a measure for one-leg lateral balance control. Gait & Posture 32(4):627-31. doi: 10.1016/j.gaitpost.2010.09.005.
36. **Curtze C**, Hof AL, Otten B, Postema K. (2010). Balance recovery after an evoked forward fall in unilateral transtibial amputees. Gait & Posture 32(3):336-41. doi: 10.1016/j.gaitpost.2010.06.005.
37. **Curtze C**, Otten B, Postema K. (2010). Effects of lower limb amputation on the mental rotation of feet. Experimental Brain Research 201(3):527-34. doi: 10.1007/s00221-009-2067-z.
38. **Curtze C**, Hof AL, van Keeken HG, Halbertsma JP, Postema K, Otten B. (2009). Comparative roll-over analysis of prosthetic feet. Journal of Biomechanics 42(11):1746-53. doi: 10.1016/j.jbiomech.2009.04.009.

Manuscripts under review/in prep

1. Aderonmu JA & **Curtze C** (in prep). Effect of Levodopa-Induced Dyskinesia on Postural Control in People with Parkinson’s Disease.
2. Brock C, Aderonmu JA& **Curtze C** (in prep). Empirical Mode Decomposition for Dyskinesia Removal in Parkinson’s Disease Postural Sway Analysis.
3. **Curtze C** (in prep). Step variability during walking in frontal gait disorders and Parkinson’s disease
4. Dotov D,Yentes JM, Mukherjee M & **Curtze C** (in prep). Adaptability of locomotor patterns during walking and turning in people with Parkinson’s disease
5. **Curtze C** (in prep). Unwinding the control of walking turns: Insight from foot placement and centripetal accelerations

Invited Talks

Balance and Gait in Parkinson's Disease: What goes awry? University of Madison, WI, December 1, 2023.

Balance and Gait in Parkinson's Disease: What goes awry? University of Utah, Salt Lake City, UT, October 9, 2023.

Unwinding the control of walking turns in people with Parkinson's disease. ASB, Knoxville, TN, 2023

Balance and Gait in Parkinson's Disease: What goes awry? Vrije Universiteit Amsterdam, Amsterdam, NL, June 26, 2023.

Challenges and advances in the use of wearable sensors for lower extremity biomechanics. NACOB, Ottawa, Ontario, 2022

Digital Biomarkers of Mobility in Parkinson’s disease: a wearable sensors approach. UNO Seminar Series, Omaha, NE, October 22, 2021

Wearable Technology for Balance and Gait Monitoring in Parkinson’s Disease. College of Engineering BME seminar series. UNL, Lincoln, NE, October 9, 2020.

Digital Biomarkers of Mobility in Parkinson’s disease: a wearable sensors approach. Neurosurgery Grand Rounds, UNMC, Omaha, NE, USA, March 11, 2020

What is Dynamic Balance? UNO, Omaha, NE, April 19, 2019

Dynamic balance in people with Parkinson’s disease. UNO, Omaha, NE, February 26, 2018

Classifying Parkinsonian Gait and Turning in Daily Life with Wearable Technology. Pacific Northwest Basal Ganglia Coterie, Union, WA, USA, May 11, 2018

Dynamic balance during turning in people with Parkinson’s disease. CSU, Fort Collins, CO, USA, August 7, 2017

Dynamic balance in people with Parkinson’s disease: a wearable sensors approach. CITEC, Bielefeld, Germany, July 19, 2017

The Turning Point in Parkinson’s Disease. Pacific Northwest Basal Ganglia Coterie, Whistler, BC, Canada, March 16, 2017

Neuromechanics of movement in lower limb amputees. Revalidatiegeneeskunde – Beweging in Bewegen, Groningen, The Netherlands, September 9, 2016

Home monitoring of gait in people with Parkinson’s disease. Pacific Northwest Basal Ganglia Coterie, Timberline, OR, USA, February 26, 2016

Human movement adaptations with biomechanical constraints. Department of Sport Science, Humboldt-University, Berlin, Germany, October 21, 2013

Integration of the prosthesis into the movement control of lower limb amputees. 56. FOT- Jahrestagung, Bundesfachschule für Orthopädie-Technik, Berlin, Germany, September 29, 2012

Dynamic stability in lower limb amputees. Department of Sport Science, University of Giessen, Giessen, Germany, May 29, 2012

“De Wetenschapper en de Aanpasser”. Symposium – Studiosi Mobilae: Make a Change, Make a Move, Groningen, The Netherlands, May 23, 2012

Walking and falling. Symposium: Electromyografie – Elasticiteit – Evenwicht, Groningen, The Netherlands, January 27, 2011

Prosthetic properties and motor capacity. Klinik und Poliklinik für Technische Orthopädie und Rehabilitation, Universitätsklinikum Münster, Münster, Germany, July 3, 2007

Interaction of prosthetic foot properties and individual motor capacity. 8e Symposium Revalidatietechniek, Groningen-Enschede, The Netherlands, May 19, 2006

Long-term retention of sequential skills. Department of Sport Science, University of Giessen, Giessen, Germany, December 13, 2005

Conference Contributions

Molina R, Maroni Vaiga D, **Curtze C**, Becker A, Cameron-Smith E, Burcal K, Raike R, Abosch A. Acute feasibility of novel stimulation pattern for the treatment of Parkinson’s disease. World Congress of the International Neuromodulation Society, 2024.

**Curtze C.** Accelerometry-based analysis of postural sway in Parkinson’s disease patients with levodopa-induced dyskinesia. ASB, 2023 (podium).

Aderonmu AJ\*, **Curtze C**. Effect of Dual Tasking and Levodopa-induced Dyskinesia on Postural Sway in People with Parkinson's Disease. Human Movement Variability and Great Plains Biomechanics Conference, Univ. of Nebraska at Omaha, 2023. \**Delsys Outstanding Poster Award*

Brock C, **Curtze C**, Accelerometry-based analysis of postural sway in Parkinson's disease patients with levodopa-induced dyskinesia. Human Movement Variability and Great Plains Biomechanics Conference, Univ. of Nebraska at Omaha, 2023.

**Curtze C**, Mukherjee M, Yentes J. Adaptability of locomotor patterns during walking and turning in people with Parkinson’s disease. NACOB, 2022.

**Curtze C**, Buurke TJM, McCrum C. The Current State of the Margin of Stability. ISPGR, 2022.

**Curtze C**, Cameron-Smith E, Maroni Veiga D, Situ M, Abosch A. Novel deep brain stimulation patterns for treatment of Parkinson's disease. ISPGR, 2022.

**Curtze C**, Mukherjee M, Yentes J. Adaptability of locomotor patterns during walking and turning in people with Parkinson’s disease. ISPGR, 2022.

**Curtze C**, Cameron-Smith E, Maroni Veiga D, Situ M, Abosch A. Novel deep brain stimulation patterns for treatment of Parkinson's disease. Human Movement Variability and Great Plains Biomechanics Conference, Univ. of Nebraska at Omaha, 2022.

Sado T, **Curtze C**, Mukherjee M. Turning Reveals Characteristic Inter-Arm Coordination Patterns in Parkinson’s Disease. Human Movement Variability and Great Plains Biomechanics Conference, Univ. of Nebraska at Omaha, 2022.

**Curtze C**, Maun JA, Horak FB, and John G. Nutt JG. Dyskinesia detection in people with Parkinson’s disease using accelerometry, ASB, August 23, 2021.

Shah VV, Curtze C, Sowalsky K, Arpan I, Mancini M, Carlson-Kuhta P, El-Gohary M, Horak FB, McNames J 6-Minute Walk Distance Using Inertial Sensors, ICAMPAM, June 23, 2021.

Dhakal S, Mace S, Brozek K, **Curtze C**, Mukherjee M. Gaze control during the dynamic visual acuity test. Human Movement Variability and Great Plains Biomechanics Conference, Univ. of Nebraska at Omaha, May 20-21, 2021.

Mace S, Brozek K, **Curtze C**, Mukherjee M. Investigating gaze patterns during treadmill walking on an oscillating support surface with matched and conflicted visual feedback.  Human Movement Variability and Great Plains Biomechanics Conference, Univ. of Nebraska at Omaha, May 20-21, 2021.

Mace S, Brozek K, **Curtze C**, Mukherjee M. Investigating gaze patterns during treadmill walking on an oscillating support surface with matched and conflicted visual feedback.  Student Research and Creative Activity Fair, Univ. of Nebraska at Omaha, March 26, 2021.

Dhakal S, Mace S, Brozek K, **Curtze C,** Mukherjee M. Gaze control during the dynamic visual acuity test.  Student Research and Creative Activity Fair, Univ. of Nebraska at Omaha, March 26, 2021.

 Mace S, Brozek K, **Curtze C**, Mukherjee M. Investigating gaze patterns during treadmill walking on an oscillating support surface with matched and conflicted visual feedback. 28th Congress of the International Society of Biomechanics, Virtual Conference, July 25-29, 2021.

Shah VV, McNames J, Mancini, M, Carlson-Kuhta P, Nutt JG, El-Gohary M, **Curtze C**, Horak FB. Comparison of gait measures in a clinic and a community setting in people with and without Parkinson's disease. MDS Virtual Congress 2020.

Mavrov K, **Curtze C**. Characterizing levodopa-induced dyskinesia in Parkinson’s disease using accelerometry. Human Movement Variability Conference and Great Plains Biomechanics Conference 2020.

**Curtze C**, Fino PC, Carlson-Kuhta P, Nutt JG, Horak FB. Dynamics of Turning in People with Parkinson’s Disease. vASB 2020.

Fallahtafti F, Gonabadi AM, Samson K, **Curtze C**, Yentes JM. Speed of Walking, as well as Walking Mode (Treadmill vs. Overground), can affect Margin of Stability. vASB 2020.

Shah V, McNames J, **Curtze C**, Mancini M, Carlson-Kuhta P, Nutt JG, El-Gohary M, Horak FB. Does Gait in Real Life differ between People with Parkinson’s Disease and Healthy Controls? International Congress of Parkinson’s Disease and Movement Disorders 2019. Nice, France.

Shah V, McNames J, **Curtze C**, Mancini M, Carlson-Kuhta P, Nutt JG, El-Gohary M, Horak FB. Association between Gait during Daily Life and Clinical Measures: Effects of Bout Length. International Congress of Parkinson’s Disease and Movement Disorders 2019. Nice, France.

**Curtze C**. Insights from foot placement and centripetal accelerations during turning. ISB/ASB 2019. Calgary, Canada.

McNames J, Shah V, Mancini M, **Curtze C**, El-Gohary M, Aboy M, and Horak FB. A Two-Stage Tremor Detection Algorithm for Wearable Inertial Sensors During Normal Daily Activities. EMBC 2019. Berlin, Germany.

Horak FB, Shah V, McNames J, Mancini M, Carlson-Kuhta P, Nutt JG, El Gohary M, **Curtze C**. Effect of Bout Size on Gait Metrics During Daily Activity. ISMPB – ICAMPAM 2019. Maastricht, Netherlands.

Shah V, McNames J, **Curtze C**, Mancini M, Carlson-Kuhta P, Nutt JG, El Gohary M, Horak FB. Quantity and Quality of Ambulatory Activity in People with Parkinson's Disease and Healthy Controls. ISMPB – ICAMPAM 2019. Maastricht, Netherlands.

**Curtze C**. Unwinding the control of walking turns. ISPGR 2019. Edinburg, UK.

Fino PC, **Curtze C.** Estimating lateral margin of stability during walking and turning using inertial sensors. ISPGR 2019. Edinburg, UK.

Shah V, McNames J, Carlson-Kuhta P, Spain R, Nutt JG, El Gohary M, Horak FB, **Curtze C**. Comparison among PD, MS and healthy people between prescribed gait test and continuous monitoring of gait in a community setting. ISPGR 2019. Edinburg, UK.

Shah V, McNames J, Carlson-Kuhta P, Spain R, Nutt JG, El Gohary M, Horak FB, **Curtze C**. Quantity and quality of gait in PD, MS and healthy people in a community setting. ISPGR 2019. Edinburg, UK.

McNames J, Shah V, Carlson-Kuhta P, El-Gohary M, Nutt JG, Spain R, Horak FB, **Curtze C**. Diurnal systematic variance of gait during normal daily monitoring. ISPGR 2019. Edinburg, UK.

Mancini M, Shah V, **Curtze C**, Stuart S, El-Gohary M, McNames J, Horak FB, Nutt JG. The impact of freezing of gait in daily life: a wearable sensors approach. ISPGR 2019. Edinburg, UK.

Nutt J, Curtze C, Christine CW, Larson PS, Van Laar A, Richardson RM, Boot B, Thompson ME, Sedkov A, Leinonen M, de Somer M. AADC Gene Therapy (VY-AADC01) Enhances Responses to IV-Levodopa in Parkinson's Disease (PD). In ANNALS OF NEUROLOGY 2018 Oct 1 (Vol. 84, pp. S230-S231).

Nutt JG, **Curtze C**, Christine CW, Larson PS, Van Laar A, Richardson RM, Boot B, Thompson ME, Sedkov A, Leinonen M, de Somer M, Bankiewicz KS, Ravina B (2018). AADC Gene Therapy (VY‐AADC01) Enhances Responses to IV‐Levodopa in Parkinson's Disease (PD). Annual Meeting of the American Neurological Association, Atlanta, GA, USA.

Horak FB, McNames J, El-Gohary M, Nutt JG, **Curtze C** (2018). Classifying Parkinsonian Gait and Turning in Daily Life with Wearable Technology. International Congress of Parkinson’s Disease and Movement Disorders, Hong Kong.

**Curtze C** (2018). Unwinding the control of walking turns. American Society of Biomechanics, Rochester, MI, USA.

Mancini M, **Curtze C**, Stuart S, El-Gohary M, McNames J, G Nutt JG, Horak FB (2018). The impact of freezing of gait on balance perception and mobility in community-living with Parkinson’s disease. 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'18), Honolulu, HI, USA.

Mancini M, **Curtze C**, Stuart S, El-Gohary M, McNames J, G Nutt JG, Horak FB (2018). The impact of freezing of gait in daily life: a wearable sensors approach. 4th International Workshop on Freezing of Gait, Leuven, Belgium.

**Curtze C**, Fino PC, Smith S, Carlson-Kuhta P, Nutt JG & Horak FB (2017). Segmental coordination during turning in people with Parkinson’s disease. American Society of Biomechanics, Boulder, CO, USA.

**Curtze C**, Smith S, Fino PC, Carlson-Kuhta P, Nutt JG & Horak FB (2017). The Turning Point: Dynamic stability in people with Parkinson’s disease. ISPGR, Fort Lauderdale, FL, USA.

**Curtze C**, Fling BW, Horak FB (2017). Gait asymmetry in people with Parkinson’s disease is linked to reduced integrity of callosal sensorimotor regions. ISPGR, Fort Lauderdale, FL, USA.

**Curtze C**, Fino PC, Smith S, Carlson-Kuhta P, Nutt JG & Horak FB (2017). Dynamic stability during turning in people with Parkinson’s disease. International Congress of Parkinson’s Disease and Movement Disorders, Vancouver, BC, Canada.

**Curtze C**, Fling BW, Dale ML, Nutt JG, Horak FB (2016). Callosal integrity and dynamic stability of gait in people with parkinsonism. Society for Neuroscience, San Diego, CA, USA.

**Curtze C**, McNames J, El-Gohary M, Nutt JG, Mancini M, Carlson-Kuhta P & Horak FB (2016). Prescribed gait tests versus continuous monitoring of gait in people with Parkinson’s disease. 4th World Parkinson Congress, Portland, OR, USA.

**Curtze C**, McNames J, El-Gohary M, Nutt JG, Mancini M, Carlson-Kuhta P & Horak FB (2016). Prescribed gait tests versus continuous monitoring of gait in people with Parkinson’s disease. Movement Disorders Conference, Berlin, Germany.

**Curtze C**, Gera G & Horak FB (2015). Characteristics of gait during long-duration walking in people with multiple sclerosis. International Symposium on Gait & Balance in MS, Portland, OR, USA.

**Curtze C**, Nutt JG, Carlson-Kuhta P, Mancini M & Horak FB (2015). Locomotor deficits and their relation to balance confidence and perceived motor functioning in people with Parkinson’s Disease. ISPGR, Seville, Spain.

**Curtze C**, Gera Dutta G, Horak FB (2015). Characteristics of gait during long-duration walking in people with multiple sclerosis. ISPGR, Seville, Spain.

**Curtze C**, Nutt JG, Carlson-Kuhta P, Mancini M & Horak FB (2015). UPDRS Motor subscales provide a measure of key locomotor function. 19th International Congress of Parkinson’s Disease and Movement Disorders, San Diego, CA, USA.

Dale ML, Fling BW, Mancini M, Peterson DS, **Curtze C**, Smulders K, Fleming M, Horak FB, Nutt JG (2015). Frontal gait disorders: DTI corpus callosal integrity correlates with stride width and cognitive function. 19th International Congress of Parkinson’s Disease and Movement Disorders, San Diego, CA, USA.

Fling BW, Livingston M, **Curtze C**, Peterson D, Smulders K, Fair D, Nutt JG, Horak FB (2015) Callosal integrity’s associations with mobility and cognitive function in frontal gait disorders. OHBM, Honolulu, HI, USA.

**Curtze C,** Gera Dutta G, Horak FB (2015). Characteristics of gait in people with multiple sclerosis. GCMAS, Portland, OR, USA.

**Curtze C**, Mancini M, Carlson-Kuhta P, Nutt JP & Horak FB (2014). Effects of levodopa and severity of Parkinson’s disease on postural sway and gait. ISPGR World Congress, Vancouver BC, Canada.

**Curtze C**, Mancini M, Carlson-Kuhta P, Nutt JP & Horak FB (2014). Effects of levodopa on instrumented measures of balance and gait. 18th International Congress of Parkinson’s Disease and Movement Disorders, Stockholm, Sweden.

**Curtze C**, Hof AL, Otten E & Postema K (2010). Balance recovery after a simulated fall in lower limb amputees. 13th World Congress of the International Society for Prosthetics and Orthotics, May 12–15, Leipzig, Germany.

**Curtze C**, Otten E, Hof AL & Postema K (2010). Asymmetry of roll-over in prosthetic walking. 13th World Congress of the International Society for Prosthetics and Orthotics, May 12–15, Leipzig, Germany.

**Curtze C**, Otten E & Postema K (2010). Effects of lower limb amputation on the mental rotation of feet: an analysis of constraints and plasticity. Neural Control of Movement, April 20–25, Naples, Florida, USA.

**Curtze C**, Hof AL, van Keeken HG, Halbertsma JPK, Otten E & Postema K (2009). Lower limb amputation and the ability to reorganize motor control. European Society of Movement Analysis in Adults and Children, September 14–19, London, UK.

Ad Hoc Journal Reviewer

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| Archives of Gerontology and Geriatrics  Archives of Physical Medicine and Rehabilitation  BMC Musculoskeletal Disorders  Clinical Biomechanics  eLife  Frontiers in Neurology | Movement Disorders  Frontiers in Sports and Active Living  Sports Science, Technology and Engineering  Gait & Posture  Human Movement Science | Japan Journal of Nursing Science  Journal of Biomechanics  Journal of Rehabilitation Medicine  Medical Engineering & Physics  Neuroscience & Biobehavioral Reviews  Neuromodulation: Technology at the Neural Interface  Movement Disorders  Parkinson’s Disease and Related Disorders  PLoS ONE |

Ad Hoc Grant Reviewer

NIH NINDS NST-2

NIH CHHD-K

NCMRR PAR SEP

Orthotic and Prosthetic Education and Research Foundation (OPERF)

Parkinson’s UK

VA SPIRE grant proposal reviewer, 2023

Ad Hoc Conference/Award Reviewer

American Society of Biomechanics (ASB) Journal Awards review panel: 2023

American Society of Biomechanics (ASB) annual conference abstract reviewer: 2020 – present

North American Congress on Biomechanics (NACOB) abstract reviewer: 2022

Great Plains Regional Biomechanics Conference/HMVC Abstracts and Awards reviewer: 2021 – present

Editorial services

Editorial Board of *Scientific Reports* 2022 – present

Editorial Board of Frontiers in Neurology as Review Editor 2018 – present

Membership

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| American Society of Biomechanics  International Parkinson and Movement Disorder Society  International Society for Posture and Gait |  |

Teaching Experience

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| Fall 2020 – | MATLAB for Movement Sciences (BMCH8200 / BMCH 9201) The purpose of the course is to expose students to the basics of programming in the MATLAB language. The course will include importing/exporting data, plotting/graphing data, spectral analysis, data smoothing, image analysis of movement related data, and programming control structures. All topics will be implemented using MATLAB. Class discussions, presentations, written, and coding assignments will be used to facilitate the understanding of the material covered in lectures. Practical application will be emphasized and including exercises and completion of a project using the student’s own data. |
| Spring 2020 – | Guest Lecturer “Rehabilitation Engineering”  Biomedical Engineering, University of Nebraska at Lincoln |
| Spring 2019 – | Advanced Biomechanics II (BMCH 9460) A comprehensive and advanced detailed investigation of the biomechanics of motor performance in special populations such as stroke, Parkinson’s disease, and amputees. Includes advanced study of the mechanical analysis of motor skills and movement patterns and the research techniques for collecting and interpreting biomechanical data. Detailed lectures will cover etiology of such special populations with a focus on the endpoint movement disorders. |
| 2013 – 2018 | Laboratory demonstrations for Pacific University DPT students, Saturday Academy, and outreach activities, e.g. OHSU Brain Fair |
| 2012 | Guest Lecturer “Clinical Movement Analysis”  Master of Sciences in Human Movement Sciences, VU Amsterdam, The Netherlands |
| 2007 | Guest Lecturer “Motor Learning and Control”  Master of Sciences in Human Movement Sciences, University of Groningen, The Netherlands |

Mentoring

Postdoc:

**Arun Karumattu Manattu** – Biomechanics, UNO Fall 2023 – present

**Vrutangkumar V Shah** – Neurology, OHSU Summer 2018 –

Doctoral Students:

**Joseph Aderonmu** – Biomechanics, UNO Fall 2024 – present

Masters Students:

**Joseph Aderonmu** – Biomechanics, UNO Fall 2023 – present

recipient of GRACA research grant from UNO; recipient of *Delsys Outstanding Poster Award* at Human Movement Variability and Great Plains Biomechanics Conference

**Chandler Brock** – Biomechanics, UNO Fall 2023 – Spring 2024

recipient of GRACA research grant from UNO; accepted into medical school for Fall 2024

Laboratory Engineer/Staff:

**Jenny Anne Maun** – Biomechanics, UNO

currently at Apple Inc

**Suhana Jamil Ahamed** – Biomechanics, UNO

Graduate student at the University of Oregon

**Graham Harker** – Neurology, OHSU

MPH in Epidemiology at OHSU-PSU SPH

**Grace McBarron**– Neurology, OHSU

DTP school at Columbia University

**Spencer Smith** – Neurology, OHSU

PA school at OHSU

**Nastassja Pal** – Neurology, OHSU

Research Project Manager at OHSU & the Portland VA

Undergraduate Students - Thesis:

**Kalina Mavrov** – BA Honors student, Biomechanics, UNO  
 recipient of 2 FUSE research grants from UNO; currently attending DPT school at Creighton

**Henk Zijlstra** – BSc student, Orthopedic Technology, Fontys Hogescholen, NL

**Hilda W. Akkermans** – BSc student, Center for Human Movement Sciences, University of Groningen, NL  
research project resulted in a shared publication in Gait & Posture

Intern/Volunteer:

**Kalina Mavrov** – BA Honors student, Biomechanics, UNO Spring 2019 – Spring 2023

**Alexa Stefanko** – Volunteer, MD-MPH student, School of Medicine, OHSU Fall 2020 – Spring 2024

**Esar van Hal** – PhD student, Human Movement Sciences, University of Groningen, NL Fall 2020 – Summer 2021

**Zachary Motz** – PhD student, Biomechanics, UNO Spring 2019 – Spring 2021

**Kyle Brozek** – MS student, Biomechanics, UNO Spring 2019 – Fall 2020

**Daniel Krawczyk** – BA student, Exercise Science, UNO Fall 2018

**Gabriela Garaycochea** – BA student, Neuroscience, UNO Fall 2018

**Michael Cameron** – Visiting Bachelor student, University of Waterloo, CAN Summer 2016

**Amy Bicknell** – Visiting Bachelor student, University of Waterloo, CAN Summer 2015

**Crystal Shum** – Visiting Bachelor student, University of Waterloo, CAN Summer 2015

**Cara Forster** – Summer student, Oberlin College Summer 2014

**Kristina Buckova** – Visiting PhD student, Slovak Academy of Sciences, Bratislava, SVK Summer 2013

**Jana Lobotkova** – Visiting PhD student, Slovak Academy of Sciences, Bratislava, SVK Summer 2013

Graduate Student Committee Member

Doctoral Students:

**Moira van Leeuwen** – Human Movement Sciences, VU Amsterdam, NL Spring 2023  
(Chair: Jaap van Dieen)

**Takashi Sado** – Biomechanics, UNO (Chair: Mukul Mukherjee) Summer 2023

**Ryan Meidinger** – Biomechanics, UNO (Chair: Aaron Likens) Summer 2023

**Corbin Rasmussen** – Biomechanics, UNO (Chair: Nate Hunt) Summer 2023

**Farahnaz Fallah Tafti** – Biomechanics, UNO (Chair: Jennifer Yentes) Fall 2016 - Summer 2021

Masters Students:

**Kierstin Niemeyer** – Biomechanics, UNO (Chair: Nate Hunt) Fall 2023 – present

**Corbin Rasmussen** – Biomechanics, UNO (Chair: Nate Hunt) Fall 2018 – Summer 2019

**Shane Meltz** – Biomechanics, UNO (Chair: Vivian Marmelat) Fall 2018 – Summer 2019

**Tyler Hamer** – Biomechanics, UNO (Chair: Brian A. Knarr) Fall 2018 – Spring 2019

Masters Students - Comprehensive Exam Committee Member:

**Jenny Anne Maun** – Biomechanics, UNO (Chair: Kota Takahashi) Spring 2021

**Rahul Raj** – Biomechanics, UNO (Chair: Jorge Zuniga) Spring 2021

STEM Outreach

12/2023 University of Wisconsin, Madison: Graduate Women+ in Mechanical Engineering (GWME+)

2018 – present National Biomechanics Day

2018 – present Nebraska Robotics Expo

2012 – 2018 Saturday Academy – Advocates for Women in Science, Engineering & Math

Service

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| 2021 – 2023 | Member CEHHS College RP&T Committee |
| 2019 – | Member of the Faculty Search Committee |
| 2018 – 2019 | Alternate Member of the College of Education Academic Standards and Policy Committee |