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Motor Control Laboratory
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EDUCATION

The Pennsylvania State University	Ph.D., Kinesiology (Gerontology minor)	2005
The Pennsylvania State University	M.S., Kinesiology	2002
Ithaca College	B.S., Exercise and Sport Science, <i>summa cum laude</i>	2000

PROFESSIONAL EXPERIENCE

1. Post-Doctoral

Assistant Professor: Department of Kinesiology and Community Health; University of Illinois at Urbana Champaign; 2005-2011.

Faculty Affiliate, Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, 2006-present

Research Fellow, Center of Advanced Study, University of Illinois at Urbana-Champaign, 2009-2010.

Faculty Fellow, National Center for Supercomputing Applications, 2009-2010.

Faculty Affiliate, Department of Bioengineering, University of Illinois at Urbana-Champaign, 2010-present.

Associate Professor: Department of Kinesiology and Community Health; University of Illinois at Urbana Champaign; 2011-present.

Vice Chair (appointed), Illinois Department of Public Health, Multiple Sclerosis (MS) Task Force; March 2013-2015.

Associate Director, Center for Health Aging and Disability, University of Illinois at Urbana Champaign; 2016-present.

Director, Illini Falls Prevention Clinic, University of Illinois at Urbana Champaign; 2016-present.

2. Graduate

Kligman Research Fellow: Motor Behavior Laboratory, Department of Kinesiology, The Pennsylvania State University, 2004-2005. (Research mentor: Dr. Karl Newell, Associate Dean of Graduate Research and Education, College of Health and Human Development)

NIA Pre-Doctoral Fellow: Motor Behavior Laboratory, Department of Kinesiology, The Pennsylvania State University, 2001-2004. (Research mentor: Dr. Karl M. Newell)

Research Assistant: Motor Behavior Laboratory, Department of Kinesiology, The Pennsylvania State University, August 2000-June 2001. (Research adviser: Dr. Karl M. Newell).

Graduate Teaching Assistant: Movement Bioscience, Department of Kinesiology, The Pennsylvania State University, August 2000-June 2001. (Supervisor: Dr. Robert Ricketts).

3. Undergraduate

Undergraduate Teaching Assistant: Physiology I & II, Department of Exercise and Sport Sciences, Ithaca College, August 1998-May 1999. (Supervisor: Dr. Thomas Swenson, Department of Exercise and Sport Sciences).

ACADEMIC HONORS

Research Featured in Wall Street Journal	Wall Street Journal	October, 2016
AARP Innovation Award	American Association of Retired Persons Foundation	2016
Research Fellow of the Center for Wounded Veterans in Higher Education	University of Illinois at Urbana Champaign	2015-2016
College Excellence in Undergraduate Teaching Award	College of Applied Health Sciences, University of Illinois at Urbana-Champaign	2014
Faculty Fellow	National Center for Supercomputing Applications, University of Illinois at Urbana-Champaign	2009-2010
Research Fellow of the Center of Advanced Study	Center for Advanced Study, University of Illinois at Urbana-Champaign	2009-2010

Arnold O. Beckman Research Award	University of Illinois at Urbana-Champaign	2005
Kligman Research Fellowship	College of Health and Human Development, The Pennsylvania State University	2004
Graduate Research Award	Department of Kinesiology, The Pennsylvania State University	2002
NIA Pre-doctoral Training Fellowship	Gerontology Center The Pennsylvania State University	2001-2004
Professional Excellence Award in Exercise Science	Department of Exercise and Sport Sciences Ithaca College	2000
Phi Beta Phi National Honor Society Membership	Ithaca College	1999
Dean Scholarship	Ithaca College	1996-2000

GRANTS

Internal Funding:

(Sosnoff) 1/1/06-12/31/07

University of Illinois Research Board
Aging, Cardioballistics and Motor Variability .
This project examines the association between aging, cardioballistics and motor variability.
Role: PI
Total for all years: (\$15,086)
Percent effort: no support

(Sosnoff) 12/15/05-12/15/06

Mary J. Neer Research Fund
Aging, Physiological Complexity, Functional Limitations and Disability.
This project examines the association between Aging, Physiological Complexity, Functional Limitations and Disability.
Role: PI
Total for all years: (\$10,000)
Percent effort: no support

(Sosnoff) 5/2/06-5/1/07

Aging Incentive Grant, Aging Initiative, University of Illinois
Aging, Physiological Complexity, Functional Limitations and Disability.

This project examines the association between Aging, Physiological Complexity, Functional Limitations and Disability.

Role: PI

Total for all years: (\$5,000)

Percent effort: no support

(Sosnoff)

6/1/06-5/30/07

Center for Healthy Minds

Variability of Cognitive Processing in Older Adults: The Role of Cardiovascular Fitness.

This project examines the role of cardiovascular fitness in variability of cognitive processing in older adults.

Role: PI

Total for all years: (\$19,490)

Percent effort: no support

(Rosengren)

6/1/07-5/30/08

Center for Healthy Minds

Effects of regular Taiji practice on cognitive and sensorimotor performance.

This project examines the effects of regular Taiji practice on cognitive and sensorimotor performance.

Role: Co-I

Total for all years: (\$15,000)

Percent effort: no support

(Sosnoff)

3/20/08-5/30/09

University of Illinois Research Board

Shoulder pain in manual wheelchair users: the influence of gender.

This project examines the influence of gender on shoulder pain in manual wheelchair users.

Role: PI

Total for all years: (\$11,332)

Percent effort: no support

(Sosnoff)

1/12/09-12/30/10

Mary J. Neer Research Fund

Wheelchair Use and Shoulder Pain: The Role of Motor Variability.

This project examines the role of motor variability on shoulder pain during wheelchair use.

Role: PI

Total for all years: (\$14,989)

Percent effort: no support

(Loucks)

5/15/09-5/1/10

Mary J. Neer Disability Research Fund

Sensorimotor Dedifferentiation as a Marker of Aging: Behavioral and Neurological Evidence.

This project examines behavioral and neurological evidence of sensorimotor dedifferentiation as a marker of aging.

Role: Co-I

Total for all years: (\$14,725)

Percent effort: no support

(Sosnoff)

8/15/09-5/15/10

National Center for Supercomputing Applications
Accelerometry of Manual Wheelchair Propulsion.

This project examines accelerometry of manual wheelchair propulsion.

Role: PI

Current year: (\$10,000)

Total for all years: (\$10,000)

Percent effort: no support

(Loucks)

8/15/09-5/15/10

Center for Health, Aging and Disease

Demyelination in motor pathways of the Central Nervous System predicts motor control reductions in healthy aging.

This project examines demyelination in motor pathways of the central nervous system as a predictor of motor control reductions in healthy aging.

Role: Co-I

Current year: (\$10,000)

Total for all years: (\$10,000)

Percent effort: no support

(Sosnoff)

8/15/10-8/14/11

University of Illinois Research Board

Effect of Acute Passive Leg Cycling on Spasticity of the Legs in Spinal Cord Injury.

This project examines the effect of acute passive leg cycling on spasticity of the legs in spinal cord injury.

Role: PI

Current year: (\$13,370)

Total for all years: (\$13,370)

Percent effort: no support

(Sosnoff)

6/1/11-5/30/12

Center for Health, Aging and Disability

Project E-FIT: Exercise-Fall Intervention Training in Multiple Sclerosis.

This project examines the effect of exercise-fall intervention training in multiple sclerosis.

Role: PI

Current year: (\$15,000)

Total for all years: (\$15,000)

Percent effort: no support

(Wilund)

6/1/11-5/30/12

Center for Health, Aging and Disability

Efficacy of Functional Electrical Stimulation-Enhanced Cycling in Disabled Populations.

This project examines efficacy of functional electrical stimulation-enhanced cycling in disabled populations.

Role: Co-I

Current year: (\$15,000)

Total for all years: (\$15,000)
Percent effort: no support

(Sosnoff)

ISIP/INSPRIE

A Trans-Atlantic Examination of Falls in Non-ambulatory Individuals with Multiple Sclerosis.

This project examines falls in a trans-atlantic population of non-ambulatory individuals with multiple sclerosis.

Role: PI

Current year: (\$7,500)

Total for all years: (\$7,500)

Percent effort: no support

NA

(Rice)

01/15/16-01/14/17

Center For Wounded Veterans in Higher Education

Home based Telerehabilitation Training System for Veterans with Spinal Cord Injury

This project seeks to develop and validate Kinect-based transfer training modules for veterans with spinal cord injury

Role: Co-I

Current Year: \$30,000

Total for all years: (\$30000)

Percent effort: no support

Carle/Illinois Seed Grant

(Sosnoff, Jain)

Awarded

Automatic Fall Risk Screening in High Risk Older Adults

Role: PI

Current Year: \$43,675

Total for all Years: \$43,675

Percent Effort: No Support

Illinois-Proof of Concept Funding

(Sosnoff)

Awarded

Smartphone Based Fall Risk Assessment

Role: PI

Current Year: \$16000

Total for all Years: \$16000

Percent Effort: No Support

External Funding

PP

(Sosnoff)

9/30/06-9/29/07

National Multiple Sclerosis Society

Alleviating spasticity with chronic cycling exercise.

This project examines the role of chronic cycling exercise in alleviating spasticity.

Role: PI

Total for all years: (\$44,000)

Percent effort: 15%

A10338 (Sutton)

American Federation of Aging Research

Demyelination in the motor system and reductions in motor control with advanced age.

This project examines demyelination in the motor system and reductions in motor control as a function of age.

Role: Co-I

Total for all years: (\$75,000)

Percent effort: 7.5%

(Hsiao-Wecksler)

National Collegiate Inventors and Innovators Alliance

Intelliwheels: the continuously variable transmission for manually-propelled wheelchairs.

This project examines the continuously variable transmission for manually-propelled wheelchairs using Intelliwheels.

Role: Co-I

Total for all years: (\$20,000)

Percent effort: no support

(Sosnoff)

Innoventor, Inc.

TheraStride™ Training in persons with Multiple Sclerosis.

This project examines the effect of TheraStride™ training in persons with Multiple Sclerosis.

Role: PI

Current year: (\$150,000)

Total for all years: (\$150,000)

Percent effort: 5%

#1R21HD066129-01 (Sosnoff)

National Institute of Health

Propulsion Mechanics Variability and Shoulder Pain in Manual wheelchair Users.

This project examines the association between propulsion mechanics variability and shoulder pain in manual wheelchair users.

Role: PI

Total for all years: (\$392,578)

Percent effort: 15%

IL RG 4333A2/2 (Sosnoff)

4/1/11-3/31/13

National Multiple Sclerosis Society

Acute Exercise, Spasticity and Functional Outcomes in Multiple Sclerosis: Differential Effects of Duration and Intensity.

This project examines the differential effects of duration and intensity of acute exercise on spasticity and functional outcomes in multiple sclerosis.

Role: PI
Current year:
Total for all years: (\$295,673)
Percent effort: 25%

IL RG 4499A3/1 (Motl) 4/1/11-3/31/13
National Multiple Sclerosis Society
Project METS in MS: Multimodal exercise training stimulus in multiple sclerosis.
This project examines the effects of multimodal exercise training stimulus in multiple sclerosis.
Role: Co-I
Current year:
Total for all years: (\$286,700)
Percent effort: 10%

(Sosnoff)
Consortium for Multiple Sclerosis Centers
Project FARMS: Fall Risk Reduction in Multiple Sclerosis.
This project examines home-based exercise as a fall prevention strategy in older adults.
Role: PI
Current year: (\$39,740)
Total for all years: (\$39,740)
Percent effort: 15%

1R43HD071653-01 (Diagle) 8/1/12-7/30/13
National Institute of Health: SBIR
IntelliWheels: the automatic transmission for manually propelled wheelchairs.
This project focuses on the development of automatic transmission for manual wheelchairs.
Role: Co-I
Current year: (\$164,567)
Total for all years: (\$164,567)
Percent effort: 10%

NMSS IL LOT 006 (Sosnoff) 10/5/12-10/4/13
National Multiple Sclerosis Society
Fall Risk Reduction in Multiple Sclerosis: Exercise versus Behavior Modification.
This project examines the effects of exercise versus behavior modification in reducing fall risk in multiple sclerosis.
Role: PI
Current year: (\$109,981)
Total for all years: (\$109,981)
Percent effort: 15%

(Finlayson)
Canadian Institute of Health Research
International MS Fall Prevention Research Network.
This project funded the initial meeting of the international MS fall prevention network

Role: Co-I
 Current year: (\$25,000)
 Total for all years: (\$25,000)
 Percent effort: no support

PP2815 (Rice) 4/1/14-3/31/15
 National Multiple Sclerosis Society
 Management of Fall Risk in Non-Community Ambulators Affected by Multiple Sclerosis.
 This project examines the effects of fall risk management in non-community ambulators affected by multiple sclerosis.
 Role: Co-PI
 Current year: (\$43,983.50)
 Total for all years: (\$43,983.50)
 Percent effort: 2.5%

ILLOT018 (Sosnoff) 7/1/14-6/30/15
 National Multiple Sclerosis Society
 Cognitive-motor interference rehabilitation in persons with multiple sclerosis.
 This project examines the effects of dual task training on cognitive motor interference in persons with multiple sclerosis.
 Role: PI
 Current year: (\$108,912)
 Total for all years: (\$108,912)
 Percent effort: 15%

RG 5057-A-4 (Sosnoff) 10/1/14-9/30/17
 National Multiple Sclerosis Society
 Fall Risk and Incidence Reduction in Multiple Sclerosis.
 This project examines home based exercise as a fall prevention strategy in older adults with MS.
 Role: PI
 Current year: \$227,428
 Total for all years: (\$627,770)
 Percent effort: 20%

NA (Sosnoff) awarded
 Consortium of MS Centers
 Computerized Cognitive Training and Cognitive Motor Interference in Multiple Sclerosis.
 This project examines the effects of computerized cognitive training on cognitive motor interference in persons with multiple sclerosis.
 Role: PI
 Current year: \$40,000
 Total for all years: (\$40,000)
 Percent effort: 5%

NA (Rice) Awarded
 Craig H. Neilsen Foundation
 Management of Fall Risk in Full Time Wheelchair Users Living with Spinal Cord Injury.

This project examines the effects of behavioral and exercise intervention on fall risk in individuals with SCI .

Role: Co-I

Current year: \$99,840

Total for all years: \$99,840

Percent effort: 10%

Supplemental Award

(Akinwuntan)

Awarded

National Multiple Sclerosis Society

Relationship between fall risk and driving performance in multiple sclerosis.

This project examines the relationship between fall risk and driving performance in persons with multiple sclerosis.

Role: consultant

Current year: \$30,000

Total for all years: (\$44,000)

Percent effort: 2%

#2016-00480

(Sosnoff)

8/15/2015-8/14/16

MC10, Inc.

Sensor Calibration and Validation in Mobility in Persons with Multiple Sclerosis

This project seeks to validate wearable sensors to mobility impairment in persons with MS.

Role: PI

Current year: \$38742

Total for all years: (\$38742)

Percent effort: 3%

Jump Arches

(Sosnoff, Ratnam, Biernot)

Funded

Simulation Training to identify fall risk in the home environment

Role: Co-PI

Current Year: \$50,215

Total for all years: \$50,215

Percent Effort: no salary support

RG-1507-05433

(Hausdorff)

Awarded

National Multiple Sclerosis Society

Virtual Reality-treadmill combined intervention for enhancing mobility and cognitive function in patients with Relapsing-Remitting Multiple Sclerosis

This project examines the efficacy of virtual reality training combined with treadmill training on mobility, cognition and quality of life in persons with multiple sclerosis.

Role: PI of UIUC site

Current year: \$156,693

Total for all years: \$549,771

Percent effort: 15%

NA

(Rice, L)

9/01/16-08/31/17

Permobile, Inc

Fall Characteristics among Power Wheelchair Users

Role: Co-I

Current Year: \$38,168
 Percent Effort: 2%

NA (Rice, L) 9/01/16-08/31/17
 Permobil, Inc
 Fall Characteristics among Manual Wheelchair Users
 Role: Co-I
 Current Year: \$38,484
 Percent Effort: 2%

1R01HD084423-01(sub-contract) (M. Morrow) 04/01/17-3/31/20
 Morrow, Melissa
 Remote Patient Monitoring Technologies in Spinal Cord Injury Rehabilitation: Detection and Prevention of Shoulder Pathology in Manual Wheelchair Users
 Role: Site-PI
 Current year: \$90857
 Percent Effort: 2%

NA (Sosnoff) 04/01/17-3/31/18
 Johnson and Johnson, Inc.
 The effects of analgesics on gait in individuals with knee osteoarthritis Role: PI
 Current year: \$111,500
 Percent Effort: 15%

Pending

(Franz, UNC) Pending (submitted 4/17)
 National Multiple Sclerosis Society
Effect of Optical Flow Perturbations on Static and Dynamic Balance Control in People with Multiple Sclerosis
 Role: Co-I
 Percent effort: 2%
 Current year: \$3961
 Total for all years: \$3961

(Rudroff, Colorado State) Pending (submitted Feb '17)
 National Multiple Sclerosis Society
 Cannabis and Rehabilitative Exercise Training in People with Multiple Sclerosis
 Role: Co-I
 Percent effort: 10%
 Current year: \$12000
 Total for all years: \$51568

RG-1701-26862 (Rice) Pending (submitted Feb '17)
 National Multiple Sclerosis Society
 Validation of a Fall Prevention Program Among Non-Ambulatory Wheeled Mobility Device Users with Multiple Sclerosis
 Role: Co-I

Percent effort: 5%
Current year: \$188,688
Total for all years: \$557,431

NMSS (Sosnoff) Pending (submitted Jan '17)
Steady-MS: Development of a Smartphone App for Fall Risk Assessment and Prevention
Role: PI
Current Year: 44000
Total for all Years: 44000
Percent Effort: 15%

National Institute of Health (R21) (Sosnoff) Pending
Automated Fall Risk Screening using Kinect Cameras
This project seeks to determine if automated fall risk screening with commercial technology is reliable and valid in older adults.
Role: PI
Current Year: \$150,000
Total for all years: \$275,000
Percent Effort: 15%

Department of Defense (Rice) Pending
Transfer Training for Full Time Wheeled Mobility Users Living with Spinal Cord Injury in Acute Inpatient Rehabilitation
Role: PI
Current Year: \$487,959
Total for all years: \$1,872,862
Percent Effort: 5%

Invention Disclosures

Jayranam C, **Sosnoff JJ**, Burns A. I3 – A home based rehabilitation training device for manual wheelchair users. Disclosed to UIUC July 14, 2015.

Sosnoff JJ, Ratnam R. Home-based Fall Prediction and Prevention System. Disclosed to UIUC Sept 13, 2015.

PUBLICATIONS

Refereed Articles

1. Ives, JC & **Sosnoff, J.** (2000). Beyond the mind body exercise hype. *The Physician and Sportsmedicine*, 28, 67-91. DOI: 10.3810/psm.2000.03.776
2. **Sosnoff, JJ**, Vaillancourt, DE, & Newell, KM. (2004). Aging and force output performance: The loss of adaptive control of multiple neural oscillators. *Journal of Neurophysiology*, 91, 172-81. DOI: 10.1152/jn.00613.

3. Vaillancourt, DE, **Sosnoff, JJ** & Newell, KM. (2004). Age-related changes in complexity depends on task dynamics. *Journal of Applied Physiology*, 97, 454-455. DOI: 10.1152/jappphysiol.00244.
4. **Sosnoff, JJ**, Vaillancourt, DE, Larson, L, & Newell, KM. (2005). Coherence of EMG activity and single motor unit discharge patterns in human rhythmical force production. *Behavioral Brain Research*, 158, 301-310. DOI:10.1016/j.bbr.2004.09.009
5. **Sosnoff, JJ** & Newell, KM. (2005). Intermittent visual information and the multiple timescales of visual motor control of continuous isometric force production. *Perception and Psychophysics*, 67, 335-344. DOI: 10.3758/BF03206496
6. Lai, S-C, Mayer-Kress, G, **Sosnoff, JJ**, & Newell, KM. (2005). Information entropy analysis of discrete aiming movements. *Acta Psychologica*, 119, 283-304. DOI:10.1016/j.actpsy.2005.02.00
7. **Sosnoff JJ** & Newell KM. (2005). Intermittency of visual information and the frequency of rhythmical force production. *Journal of Motor Behavior*, 37, 325-334. DOI: 10.3200/JMBR.37.4.325-336
8. **Sosnoff JJ**, Jordan, K, & Newell KM. (2005). Information and force level interact in regulating
9. force output during 2 and 3 digit grip configurations. *Experimental Brain Research*, 167, 76-85. DOI: 10.1007/s00221-005-0009-y
10. **Sosnoff JJ**, Valantine AD, & Newell KM (2006). Independence between the amount and structure of variability at low force levels. *Neuroscience Letters*, 392, 165-169. DOI:10.1016/j.neulet.2005.09.010
11. **Sosnoff JJ** & Newell KM (2006). Aging, visual intermittency and variability in isometric force output, *Journal of Gerontology: B Psychological Sciences*. 61, P117-24. URL: <http://psychogerontology.oxfordjournals.org/content/61/2/P117.full.pdf+html>
12. **Sosnoff JJ** & Newell KM (2006). Information processing limitations with aging in the visual scaling of isometric force. *Experimental Brain Research*. 170, 423-32. DOI: 10.1007/s00221-005-0225-5
13. **Sosnoff JJ** & Newell KM (2006). Are age-related increases in force variability due to decrements in strength? *Experimental Brain Research*. 174, 86-94. DOI: 10.1007/s00221-006-0422-x
14. **Sosnoff JJ** & Newell KM (2006). The generalization of perceptual-motor intra-individual variability in young and old adults. *Journal of Gerontology: B Psychological Sciences*. 61, P304-310. URL: <http://psychogerontology.oxfordjournals.org/content/61/5/P304.full.pdf+html>
15. **Sosnoff JJ**, Deustch KM, & Newell KM (2007). Does muscular weakness account for younger children's enhanced force variability? *Developmental Psychobiology* 49, 399-405. DOI: 10.1002/dev.20209

16. **Sosnoff JJ** & Newell KM (2007). Are visual feedback delays responsible for aging-related increases in force variability? *Experimental Aging Research*, *33*, 399-415. DOI:10.1080/03610730701525311
17. **Sosnoff JJ**, Broglio SP, Hillman CH & Ferrara MS. (2007). Concussion does not impact intra-individual response time variability. *Neuropsychology*, *21*, 706-802. DOI: 10.1037/0894-4105.21.6.70
18. Heffernan KS, **Sosnoff JJ**, Jae SY, Gates GJ & Fernhall B. (2008). Acute resistance exercise increases QTc interval. *International Journal of Sports Medicine*, *29*, 289-93. DOI: 10.1055/s-2007-965363
19. **Sosnoff JJ**, Broglio SP & Ferrara MS. (2008). Cognitive and motor function are associated following mild traumatic brain injury. *Experimental Brain Research*, *187*, 563-571. DOI: 10.1007/s00221-008-1324-x
20. Heffernan KS, **Sosnoff JJ**, Fahs CA, Shinsako KK, Jae SY and Fernhall B. (2008). Fractal scaling of heart rate dynamics following resistance exercise training. *Journal of Applied Physiology*, *106*, 113-118. DOI: 10.1152/jappphysiol.00150.2008
21. **Sosnoff JJ** & Newell KM (2008). Age-related loss of adaptability to fast time scales in motor variability. *Journal of Gerontology: B Psychological Sciences*. *63*, P344-P352. URL: <http://psychogerontology.oxfordjournals.org/content/63/6/P344.full.pdf+html>
22. Broglio BP, **Sosnoff JJ**, Rosengren KS & McShane K (2009). A comparison of balance performance: computerized dynamic posturography and a random motion platform. *Archives of Physical Medicine and Rehabilitation*, *90*, 145-150. DOI:10.1016/j.apmr.2008.06.025
23. **Sosnoff JJ** & Voudrie SJ (2009). Practice and the age-related loss of adaptability in sensorimotor performance. *Journal of Motor Behavior*, *41*, 137-146. DOI: 10.3200/JMBR.41.2.137-146
24. **Sosnoff JJ**, Valentine AD, & Newell KM. (2009). The adaptive range of 1/f isometric force production. *Journal of Experimental Psychology: Human Performance and Perception* *35*, 439-46. DOI: 10.1037/a0012731
25. Heffernan KS, **Sosnoff JJ**, Ofori E, Jae SY, Baynard T, Collier SR, Goulopoulou S, Figueroa A, Woods JA, Pitetti JH, Bo Fernhall (2009). Complexity of force output during static exercise in individuals with Down Syndrome. *Journal of Applied Physiology*, *106*, 1227-33. DOI: 10.1152/jappphysiol.90555.2008
26. Morrison S & **Sosnoff JJ**. (2009). Age-related changes in the adaptability of neuromuscular output. *Journal of Motor Behavior*, *41*, 274-283. DOI: 10.3200/JMBR.41.3.274-288
27. Broglio BP, **Sosnoff JJ**, Shin S, He X, Alcaraz C, Zimmerman J. (2009). Head impacts during high school football: A biomechanical assessment. *Journal of Athletic Training*, *44*, 242-249.
28. URL: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2707068/?tool=pubmed>

29. **Sosnoff JJ**, Motl RW, Snook EM & Wynn D. (2009). Effect of a 4-week period of unloaded leg cycling exercise on spasticity in multiple sclerosis. *NeuroRehabilitation*, 24, 327-31. DOI: 10.3233/NRE-2009-0486
30. Broglio SP, **Sosnoff JJ**, & Ferrara MS. (2009). The relationship of athlete reported concussion symptoms and objective measures of neurocognitive function and postural control. *Clinical Journal of Sports Medicine*. 19, 377-82. DOI: 10.1097/JSM.0b013e3181b625fe
31. **Sosnoff JJ**, Samson JM, & Shin S. (2009). Aging and motor variability across timescales. *International Journal of Human Movement Science*. 3, 133-147.
32. **Sosnoff JJ**, Voudrie SJ & Ebersole KE. (2010). The effect of knee joint angle on torque control. *Journal of Motor Behavior*. 42, 5-10. DOI: 10.1080/00222890903269237
33. Hsiao-Wecksler ET, Polk JD, Rosengren KS, **Sosnoff JJ**, & Hong S. (2010). Development of new analytic techniques for quantifying symmetry in locomotion. *Symmetry*, 2, 1135-1155.
34. _____ **Sosnoff JJ**, Shin S & Motl RW (2010). Multiple sclerosis and postural control: The role of spasticity. *Archives of Physical Medicine and Rehabilitation*. 91, 93-99. DOI:10.1016/j.apmr.2009.09.013
35. Ofori E, Samson JM, **Sosnoff JJ**. (2010). Age-related differences in force variability and visual display. *Experimental Brain Research*. 203, 299-306. DOI: 10.1007/s00221-010-2229-z
36. Loucks TMJ, Ofori E, Grindrod CM, De Nil LF, **Sosnoff JJ** (2010). Auditory motor integration in oral and manual effectors. *Journal Motor Behavior*, 42: 233-9. DOI: 10.1080/00222895.2010.492723
37. **Sosnoff JJ** & Motl R. (2010). Effect of acute unloaded arm versus leg cycling exercise on the soleus H-reflex in adults with multiple sclerosis. *Neuroscience Letters*, 479, 233-239. DOI:10.1016/j.neulet.2010.05.086
38. **Sosnoff JJ**, Goldman M, Motl RW (2010). Real life walking impairment in multiple sclerosis: preliminary comparison of four methods for processing accelerometry data. *Multiple Sclerosis*, 16, 868-877. DOI: 10.1177/1352458510373111
39. Morrison S & **Sosnoff JJ**. (2010). The impact of localized fatigue on contralateral tremor and muscle activity is exacerbated by standing posture. *Journal of Electromyography and Kinesiology*, 20, 1211-1218. DOI:10.1016/j.jelekin.2010.07.002
40. Broglio SP, Schnebel B, **Sosnoff JJ**, Shin S, Feng X, He X, Zimmerman J. (2010). The biomechanical properties of concussions in high school football. *Medicine and Science in Sport and Exercise*, 42, 2064-2071. DOI: 10.1249/MSS.0b013e3181dd9156
41. Motl RW, **Sosnoff JJ**, Dlugonski D, Suh Y & Goldman M. (2010). Does a waist-worn accelerometer capture intra- and inter-person variation in walking behavior among persons with

multiple sclerosis? *Medical Engineering & Physics*, 32, 1224-28.
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121. Moon Y, Sung JH, An R, Hernandez M, & **Sosnoff JJ**. (2016). Gait variability in people with neurological disorders: A systematic review and meta-analysis. *Human Movement Science*, 47, 197-208.
122. Sung JH, Shen S, Motl RW & **Sosnoff JJ**. (2016). Bladder function and falls in MS. *Disability & Rehabilitation*. 38(22), 2193-7.
123. Morrison S, Rynders CA, **Sosnoff JJ** (2016). Deficits in Medio-Lateral Balance Control and the Implications for Falls in Individuals with Multiple Sclerosis. *Gait and Posture*, 49:148-54.
124. Wajda DA, Motl RW, **Sosnoff JJ**. (2016). Three Month Test-Retest Reliability of Center of Pressure Motion during Standing Balance in Individuals with Multiple Sclerosis. *IJMSC*. 18(2):59-62.
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126. Roeing KL, Wajda DA, **Sosnoff JJ**. (in press). Time Dependent Structure of Posture in Individuals with Multiple Sclerosis. *Gait and Posture*
127. Sung JH, Ousley C, Isaac Z, Rice LA, **Sosnoff JJ**. (2016). Reliability and validity of the function in sitting test in non-ambulatory individuals with multiple sclerosis. *International Journal of Rehabilitation Research*. 39(4):308-312.
128. Moon Y & **Sosnoff JJ**. (in press). Safe landing strategies during a fall: Systemic review and meta-analysis. *Archives of Physical Medicine and Rehabilitation*.
129. Wajda DA, Hausdorff J, Mirelman A, **Sosnoff JJ** (in press). Intervention Modalities for Targeting Cognitive-Motor Interference in Individuals with Neurodegenerative Disease. *Expert Reviews of Neurotherapeutics*
130. Shin S, & **Sosnoff JJ**. (in press). Spinal cord injury and seated postural control: A test of the rambling and trembling hypothesis. *Motor Control*.
131. Moon Y, McGinnis RS, Seagers K, Motl RW, Sheth N, Wright JA, Ghaffari R, **Sosnoff JJ**. (2017). Monitoring gait in Multiple Sclerosis with novel wearable motion sensors. *PlosOne*. , 12(2):e0171346
132. Roeing KL, Moon Y, Sosnoff JJ (2017). Unplanned Gait Termination in Individuals with Multiple Sclerosis. *Gait and Posture*. 53:168-172

133. Sosnoff JJ, Wajda DA, Sandroff BM, Roeing KL, Sung JH, Motl RW (in press). Dual Task Training in Persons with Multiple Sclerosis: A Feasibility Randomized Controlled Trial. *Clinical Rehabilitation*.
134. Ciol MA, Matsuda PN, Khurana SB, Cline MJ, **Sosnoff JJ**, Kraft HK (in press). The effect of Cognitive Demand on Functional Mobility in Ambulatory persons with Multiple Sclerosis. *International Journal of MS Care*

Under review:

Rice LA, Kalron A, Berkowitz SH, Backus D, **Sosnoff JJ**. (under review) Fall prevalence in wheeled mobility device users living with multiple sclerosis.

Rice LA, Isaacs, Z, Ousley, CO, **Sosnoff JJ** (under review). Preliminary Investigation of an Intervention to Manage Fall Risk and Enhance Functional Mobility Among Wheeled Mobility Device Users with Multiple Sclerosis. *Disability and Rehabilitation*

Sung JH, Trace Y, Peterson EW, **Sosnoff JJ**, Rice LA (under review). Falls among fulltime wheelchair users with spinal cord injury and multiple sclerosis: A comparison of characteristics of fallers and circumstances of falls. *PlosOne*

Sun R, Moon Y, McGinnis RS, Seagers K, Motl RW, Sheth N, Wright JA, Ghaffari R & **Sosnoff JJ** (under review), Assessment of Postural Sway in Individuals with Multiple Sclerosis Using a Novel Wearable Inertial Sensor. *Archives of Physical Medicine and Rehabilitation*

Chapters

Newell KM, Deutsch KM, **Sosnoff JJ**, & Mayer-Kress G. (2005). Motor output variability as noise: A default and erroneous proposition? In K. Davids, S. Bennet & K. Newell (Eds.), *Variability in the Movement System: a Multi-Disciplinary Perspective* (p 3-22). Champaign, IL: Human Kinetics.

Hong SL, **Sosnoff JJ**, & Newell KM. (2005). Complexity and stability in isometric force production. In H. Heft & L. Marsh (Eds.), *Studies in Perception and Action VIII*. Lawrence Erlbaum Assoc, Inc.

Newell KM, Vaillancourt DE, & **Sosnoff JJ**. (2006). Aging, complexity and motor performance: healthy and disease states. In J.E. Birren & K.W. Schaie (Eds.), *Handbook of the psychology of aging (6th Ed.)* (p 163-182). Amsterdam: Elsevier.

Sun R, Wood TA, **Sosnoff JJ** (in press). The use of low resolution pedobarographs. In F. Miller (Ed.), *Handbook of Human Motion*. New York: Springer.

INVITED PRESENTATIONS

Sosnoff JJ. (November, 2006). “Aging, force control and muscle weakness”. Building Bridges 2006: joint meeting of Canadian Society for Exercise Physiology and Canadian Society for Psychomotor Learning and Sports Psychology, Halifax, NS, Canada. (Invited Presenter).

Sosnoff, JJ, (October, 2007). “Do sensorimotor deficits in advanced age result from a loss of complexity or loss of adaptability?” The University of Illinois Urbana-Champaign, College of Engineering, Bioengineering Interest Group (BIG) Seminar.

Sosnoff JJ, (April, 2009). “Aging and motor variability: Underlying mechanisms”. University of Nebraska Medical Center, Omaha, NE.

Sosnoff JJ (August 2009). “Aging, Motor Variability and Muscular Weakness”. International Sport Science Congress, Hanyang University, Seoul, Korea.

Sosnoff JJ (August 2009). “Aging, Sensorimotor Declines and Loss of Adaptability”. Seoul National University, Seoul, Korea

Sosnoff JJ (December 2010). Breaking the Cycle: Determining the Effects and Management of Spasticity in Multiple Sclerosis. Center for Health, Aging and Disability and Health, Wellness Research Initiative Symposium: Redefining Disability. University of Illinois at Urbana-Champaign.

Sosnoff JJ (February 2012). Falls and Multiple Sclerosis. Dean Speaker Series, College of Health Sciences. Old Dominion University, Norfolk, VA.

Sosnoff JJ (September 2013). Falls: Assessment and Intervention. Midwest Geriatric Medicine Symposium: Solutions in Aging, Carle Hospital, Urbana, IL.

Sosnoff JJ (November 2013). Dual Task Cost of Walking and Balance in Multiple Sclerosis. American Congress of Rehabilitation Research 90th Annual Meeting. Orlando, FL.

Sosnoff JJ (February 2014). Cognitive Motor Interference in Walking in Persons with MS. American Academy of Orthotics and Prosthetics Annual Meeting. Chicago, IL.

Sosnoff JJ (March 2014). Falls prevention in Persons with Multiple Sclerosis. School of Rehabilitation Therapy, Queen’s University, Kingston, Ontario.

Sosnoff JJ (March 2014). Falls in non-ambulatory in persons with Multiple Sclerosis. Karolinska Institutet, Stockholm, Sweden.

Sosnoff JJ (June 2014). One step at a time: Evidence for body weight supported treadmill training in MS. Consortium of MS Centers Annual Meeting, Dallas, TX.

Sosnoff JJ (October 2014). Rehabilitative strategies to prevent falls in Persons with multiple sclerosis. American Congress of Rehabilitation Research 91st Annual Meeting. Toronto, Canada.

Sosnoff JJ. (October 2014). Assessment of Cognitive-Motor Interaction in Gait and Balance. 4th Annual International Symposium on Gait and Balance in Multiple Sclerosis. Cleveland, Oh.

- Sosnoff JJ.** (January 2015). Cognitive-Motor Interaction in Multiple Sclerosis. Chittenden Symposium on Technology and Mobility: The future of health. University of Illinois at Urbana-Champaign.
- Sosnoff JJ.** (March 2015). Cognitive-Motor Interaction in Multiple Sclerosis: Evidence, Predictors, and Consequences. Department of Physical Therapy, Tel Aviv University, Tel Aviv, Israel.
- Sosnoff JJ.** (March 2015). Fall Prevention in Multiple Sclerosis. MS Center, Sheba Medical Center, Tel Aviv, Israel.
- Sosnoff JJ.** (March 2015). Cognitive-Motor Interaction in Multiple Sclerosis: Evidence, Predictors, and Rehabilitation. Center for Movement, Cognition, and Mobility. Tel Aviv Sourasky Medical Center, Israel.
- Sosnoff JJ** (April 2015). Fall Prevention in Persons with multiple sclerosis. END-MS Symposium. Toronto, Canada.
- Sosnoff JJ** (May 2015). Cognitive-Motor Interaction in Multiple Sclerosis: Predictors, Consequences and Rehabilitation. Department of Rehabilitation, Division of Physical Therapy, University of Washington, Seattle, WA.
- Sosnoff JJ** (May 2015). Cognitive-Motor Interaction in Multiple Sclerosis: Predictors, Consequences and Rehabilitation. Department of Physical Therapy, Georgia Regents University, Augusta, GA.
- Sosnoff JJ.** (November 2015). Cognitive-Motor Interaction in Multiple Sclerosis: Assessment, Predictors, and Rehabilitation. Department of Physical Therapy, University of North Carolina-Chapel Hill.
- Sosnoff JJ.** (February 2016). Cognitive-Motor Interaction in Multiple Sclerosis: Assessment, Predictors, and Rehabilitation. Department of Health and Exercise Science, Colorado State University.
- Sosnoff JJ** (April 2016). Neuroscience of Falls. Clinical & Translational Neuroscience Workshop, Health Innovations Lecture Series, Carle Foundation Hospital & UIUC.
- Sosnoff JJ** (December 2016). Cognitive-Motor Interaction in Multiple Sclerosis: Assessment, Consequences and Rehabilitation. Center for Bionic Medicine, Rehabilitation Institute of Chicago, Chicago, IL.
- Sosnoff JJ** (March 2017). Falls in wheelchair users: Predictors and Prevention. Chittenden Symposium on Health and Technology: Assistive Technology, University of Illinois at Urbana-Champaign.

Conference Presentations

- Sosnoff JJ, Vaillancourt DE, Larsson L and Newell KM.** (June 2002). Rhythmical force production and spectral analysis of intramuscular EMG and motor unit discharge patterns. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Baltimore, MD, (Presenter).

Lai S, **Sosnoff JJ**, Meyer-Kress G & Newell K. (June 2002). Application of information technology. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Baltimore, MD.

Sosnoff JJ, Vaillancourt DE, Larsson L and Newell KM. (Nov 2002). Rhythmical force production and spectral analysis of intramuscular EMG and motor unit discharge patterns. Society for Neuroscience, Orlando, FL, (Presenter).

Sosnoff JJ, Vaillancourt DE, and Newell KM. (Nov 2002). Aging and the frequency structure of intramuscular EMG. Gerontological Society of America, Boston, MA, (Presenter).

Lai S, Meyer-Kress G, **Sosnoff JJ** & Newell KM. (June 2003). Examination of entropy algorithm's in the analysis of discrete aiming movements. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Savannah, GA.

Sosnoff JJ & Newell KM. (June 2003). Intermittent control of continuous isometric force output across sub-maximal force levels. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Savannah, GA. (Presenter).

Sosnoff JJ, Vaillancourt DE & Newell KM (Nov 2003). The effects of aging on the complexity of motor output: A multi-scale entropy analysis. Dynamic Neuroscience XI: Neuronal Variability and Noise, New Orleans, LA. (Presenter).

Sosnoff JJ & Newell KM. (Nov 2003). Intermittency in the control of rhythmic force production. Society for Neuroscience, New Orleans, LA. (Presenter).

Sosnoff JJ, Jordan K & Newell KM. (June 2004). Control of force output as a function of grip configuration, force magnitude and visual intermittency. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Vancouver, Canada.

Sosnoff, JJ & Newell, KM. (Oct 2004). Visual information scale, aging and the control of isometric force output. Society for Neuroscience, San Diego, CA. (Presenter).

Sosnoff JJ, Carter RM, & Newell KM. (June 2005). Cognitive constraints and the stability of postural control in older adults. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Tampa, FL. (Presenter).

Vallantine AD, **Sosnoff JJ** & Newell KM. (June 2005). The invariance of force irregularity at low force levels. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Tampa, FL.

Sosnoff JJ & Newell KM. (June 2005). Bringing down the noise: An empirical test of the neural noise hypothesis. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Tampa, FL. (Presenter).

Valantine AD, **Sosnoff JJ**, & Newell, KM. (August 2005). The control of force production at low force levels. Progress in Motor Control V, University Park, PA.

Sosnoff JJ & Newell KM. (August 2005). Aging, visual motor processing and deficits in isometric force output. Progress in Motor Control V, University Park, PA.

Sosnoff JJ, Valentine AD, & Newell KM. (Nov 2005). Force magnitude does not influence force irregularity at low force levels. Society of Neuroscience, Washington, DC. (Presenter).

Sosnoff JJ & Newell KM. (May 2006). Aging: Loss of Complexity or Loss of Adaptability. Understanding Complex Systems, Urbana, IL. (Presenter).

Sosnoff JJ & Newell KM (June 2006). Aging and intra-individual variability in motor performance North American Society for Psychology of Sport and Physical Activity Annual Meeting, Denver, CO. (Presenter).

Sosnoff JJ & Newell KM (June 2006). Force variability, aging and muscle weakness. American College of Sports Medicine, Denver, CO. (Presenter).

Sosnoff JJ, Valentine AD, & Newell KM. (August 2006). The adaptive range of fractal force production. Society for Chaos Theory in Psychology and Life Sciences. Baltimore, MD.

Sosnoff JJ, Jang J & Ofori,E. (October 2006). The neuromuscular correlates of the structure of force variability. Society of Neuroscience, Atlanta, GA. (Presenter).

Contakos J, **Sosnoff JJ**, McAuley E, Rosengren K. (June 2007) Changes in postural dynamics as a function of task constraints in elderly women, North American Society for Psychology of Sport and Physical Activity Annual Meeting, San Diego, CA.

Sosnoff JJ, Valentine & Newell K. (June 2007). Aging, loss of adaptability or loss of complexity. North American Society for Psychology of Sport and Physical Activity Annual Meeting, San Diego, CA. (Presenter).

Ofori E & **Sosnoff JJ**. (June 2007). Does discrete force production impact continuous force production. North American Society for Psychology of Sport and Physical Activity Annual Meeting, San Diego, CA.

Sosnoff JJ, Voudrie S, Jae SY, Heffernan K & Fernhall B. (June 2007). Cardiobalistic impulse and fluctuations in isometric force output. North American Society for Psychology of Sport and Physical Activity Annual Meeting, San Diego, CA.

Sosnoff JJ & Samson J. (June 2007). Aging, physical activity and variability of cognitive processing. North American Society for Psychology of Sport and Physical Activity Annual Meeting, San Diego, CA.

Sosnoff JJ, Voudrie S, Jae SY, Heffernan K & Fernhall B. (August 2007). Are age-related differences in tremor related to cardiobalistics? Progress in Motor Control VI, Santos, Brazil. (Presenter).

Shin S, Voudrie SJ, Samson JM, Snook EM, **Sosnoff JJ**, Motl RW. (June 2008). Postural control in individuals with multiple sclerosis: A dual task approach. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Niagara Falls, Canada.

Ofori E, Heffernan KS, **Sosnoff JJ**, Baynard T, Woods JA, & Fernhall B. (June 2008). Down Syndrome and force variability. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Niagara Falls, Canada.

Ofori E, **Sosnoff JJ** & Carlton LG. (June 2008). The relationship between discrete and continuous force variability. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Niagara Falls, Canada.

Samson JM, **Sosnoff JJ**, & Hillman CH. (June 2008). Physical activity and intraindividual cognitive variability in children. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Niagara Falls, Canada.

Voudrie SJ, Ebersole KT, & **Sosnoff JJ**. (June 2008). The effects of ACL surgery and rehabilitation on torque control. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Niagara Falls, Canada. (Presenter)

Sosnoff JJ, Voudrie SJ, & Samson JM. (June 2008). Coupling between cognitive and motor variability in young and old adults. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Niagara Falls, Canada. (Presenter)

Ofori E, Heffernan KS, **Sosnoff JJ**, Baynard T, Gouloupoulo S, Collier SR, Figueroa A & Fernhall B. (June 2008). Muscular weakness and force variability in individuals with Down Syndrome. American College of Sports Medicine Annual Meeting, Indianapolis, IN.

Samson JM, **Sosnoff JJ**, Buck SM, Pontifex MB, Themason JR & Hillman CH. (June 2008). Aerobic exercise training and intra-individual cognitive variability in older adults. American College of Sports Medicine Annual Meeting, Indianapolis, IN.

Heffernan KS, Fahs CA, Shinsako KK, **Sosnoff JJ**, Jae SY, & Fernhall Bo. (June 2008). Fractal properties of heart rate following resistance training: Chaotic times call for chaotic measures. American College of Sports Medicine Annual Meeting, Indianapolis, IN.

Voudrie SJ, Ebersole KT, & **Sosnoff JJ**. (June 2008). Joint angle and torque variability in the Quadriceps. American College of Sports Medicine Annual Meeting, Indianapolis, IN.

Morrison S & **Sosnoff JJ**. (June 2008). Aging-related changes in the adaptability of neuromuscular output. American College of Sports Medicine Annual Meeting, Indianapolis, IN. (Presenter).

Sosnoff JJ, Broglio SP, & Ferrara MS. (June 2008). Coupling between cognitive and motor function following mild traumatic brain injury. American College of Sports Medicine Annual Meeting, Indianapolis, IN. (Presenter).

Sosnoff JJ & Newell KM. (Nov 2008). Intentional fractal movement. Psychonomic Society Annual Meeting. Chicago, IL. (Presenter).

Sosnoff JJ, Samson JM, Voudrie SJ (Nov 2008). Practice and the age-related loss of complexity in perceptual motor output. Gerontological Society of America Annual Meeting, Baltimore, MD.

Broglio SP, **Sosnoff JJ**, Shin S, Ferrara MS. (May 2009). Long term changes in balance following concussion, American College of Sports Medicine, Seattle, WA.

Shin S, **Sosnoff JJ**, Broglio SP. (May 2009) Reducing ankle movement has no effect on postural control dynamics, American College of Sports Medicine, Seattle, WA.

Sosnoff JJ, Wessels K, Brown JL, Ebersole KE. (May 2009). Shoulder pain in manual wheelchair athletes: The role of gender. American College of Sports Medicine, Seattle, WA.

Sosnoff JJ, Culp S, Contakos J. (June 2009). Temporal dynamics of wheelchair propulsion. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Austin, TX. (Presenter).

Sosnoff JJ & Samson JM. (June 2009). Age-related motor variability across time scales. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Austin, TX. (Presenter).

Ofori E, Samson JM & **Sosnoff JJ**. (June 2009). Visual display and age-related differences in force production. North American Society for Psychology of Sport and Physical Activity Annual Meeting, Austin, TX.

Broglio SP & **Sosnoff JJ**. (June 2009). The relationship between cognitive and postural control performance with self-report concussion symptoms, National Athletic Trainers' Association Annual Meeting and Clinical Symposium, San Antonio, TX.

Shin SH, Valentine R, Evans E, & **Sosnoff JJ** (August 2009). Lower extremity muscle quality and gait variability in older adults. American Society of Biomechanics Annual Meeting, State College, PA.

Sosnoff JJ, Ofori E, Knapik D, Grindrod CM, De Nil LF, Ambrose NG, Carlton LG, & Loucks T. (Oct 2009). Auditory Motor Memory. Society for Neuroscience Annual Meeting, Chicago, IL.

Grindrod CM, Loucks T, & **Sosnoff JJ**. (Oct 2009). Intraindividual response time variability during on-line sentence comprehension in left- and right-brain-damaged patients. Society for Neuroscience Annual Meeting, Chicago, IL.

Sosnoff JJ, Rampurawala ZM, Daigle SC, DiBerardino LA, Park K, Hsiao-Wecksler ET. (2010) Complexity and variability in manual wheelchair propulsion. 16th Annual US National Congress on Theoretical and Applied Mechanics. State College, PA.

Wessels K, **Sosnoff JJ**, , Butler JM, Serio S (June 2010). Force control in manual wheelchair users. American College of Sports Medicine. Baltimore, MD.

Sosnoff JJ & Motl RW. Effect of arm vs. leg cycling exercise on spasticity of the legs in multiple sclerosis. (June 2010). Americas Committee for the Treatment and Research in Multiple Sclerosis (ACTRIMS). San Antonio, Texas.

Sosnoff JJ, Gappmeier E, Frame A & Motl RW. (June 2010). Spasticity, mobility and balance in persons with Multiple Sclerosis. Consortium for Multiple Sclerosis Centers (CMSC). San Antonio, Texas.

Sosnoff JJ, Wessels K, Serio S & Butler JM (June 2010). Sub-maximal force control as a function of shoulder pain in manual wheelchair users. North American Society for Psychology of Sport and Physical Activity Annual Meeting. Tucson, Az.

Shin S & **Sosnoff JJ**. (June 2010). Nonlinear time series analyses of seated postural control in young adults with spinal cord injury. North American Society for Psychology of Sport and Physical Activity Annual Meeting. Tucson, Az.

Ofori E, Loucks TM, Knapik DP, Carlton LG & **Sosnoff JJ**. (June 2010). Auditory and visual feedback in oral and manual force control. North American Society for Psychology of Sport and Physical Activity Annual Meeting. Tucson, Az.

Loucks TM, Ofori E, Grindrod CM, De Nil L & **Sosnoff JJ**. (June 2010). Auditory motor integration in oral and manual effectors. North American Society for Psychology of Sport and Physical Activity Annual Meeting. Tucson, Az.

Sosnoff, J. J., Boes, M. K., Sandroff, B. M., Pula, J. H., & Motl, R. W. (June 2011). Walking and thinking in people with multiple sclerosis [Abstract]. *International Journal of MS Care*, 13, 3.

Sosnoff, J. J., Socie, M. J., Boes, M. K., Sandroff, B. M., Suh, Y., & Motl, R. W. (2011). Ambulatory mobility monitoring in people with multiple sclerosis [Abstract]. *International Journal of MS Care*, 13, 69-70.

Socie, M.J., Boes, M. K., Motl, R. W., & **Sosnoff, J. J.**, (2011). Changes in spatiotemporal parameters of gait during the 6-minute walk in people with multiple sclerosis [Abstract]. *International Journal of MS Care*, 13, 71.

Balantrapu, S., Sandroff, B. M., **Sosnoff, J. J.**, & Motl, R. W. (2011). Self-reported impact of spasticity is associated with spatiotemporal parameters of gait [Abstract]. *International Journal of MS Care*, 13, 81-82.

Balantrapu, S., **Sosnoff, J. J.**, Pula, J. H., Weikert, M. L., Suh, Y., Boes, M. K., Sandroff, B. M., & Motl, R. W. (2011). Spasticity of the legs and its effect on measures of ambulation and gait [Abstract]. *International Journal of MS Care*, 13, 82.

Boes, M. K., **Sosnoff, J. J.**, Pula, J. H., Sandroff, B. M., & Motl, R. M. (2011). Standing, walking, and thinking in multiple sclerosis [Abstract]. *International Journal of MS Care*, 13, 67-68.

Goldman, M., Suh, Y., Weikert, M. L., Pula, J. H., **Sosnoff, J. J.**, & Motl, R. W. (2011). Confirmation of 6-minute walk test utility in multiple sclerosis subjects [Abstract]. *International Journal of MS Care*, 13, 6.

Sosnoff, J. J., Shin, S., Stergiou, N., Huisinga, J., van Emmerick, R.E.A., & Busa, M.A. (2011). Postural and gait dysfunction in Multiple Sclerosis: Novel insights from motor control [Abstract]. *Journal of Sport and Exercise Psychology*, 33, S21.

- Sosnoff, J. J.,** Shin, S., & Motl, R.W. (2011). A test of the rambling trembling hypothesis in Multiple Sclerosis. [Abstract]. *Journal of Sport and Exercise Psychology*, 33, S22.
- Ofori, E. **Sosnoff, J. J.,** Morrison, S., Boes, M.K., Pula, J.H., & Motl, R.W. (2011). Tremor and multiple sclerosis. [Abstract]. *Journal of Sport and Exercise Psychology*, 33, S95.
- Shin, S., Motl, R.W. & **Sosnoff, J. J.** (2011). Spasticity and postural asymmetry in persons with multiple sclerosis. [Abstract]. *Journal of Sport and Exercise Psychology*, 33, S22.
- Sosnoff JJ,** Sandroff BM, Pilutti LA, Pula JH, Morrison SM & Motl RW. (Oct 2011) Falls and activity curtailment in persons with multiple sclerosis. First International Symposium on Gait and Balance in Multiple Sclerosis. Portland, OR.
- Sosnoff, J. J.,** Sandroff, B. M, Socie MJ, Balantrapu S, Suh Y, Pula, J. H., & Motl, R. M. (2012). Predictors of dual task cost in persons with MS. *International Journal of MS Care*, 14, 1.
- Balantrapu S, Suh Y, Sandroff BM, Pilutti LA, Dlugonski D, **Sosnoff, JJ,** Pula, JH, Motl RM. (2012). Total macular volume and its association with ambulatory parameters in persons with MS. *International Journal of MS Care*, 14, 73.
- Sandroff, B. M, Pilutti LA, Dlugonski D, Balantrapu S, Suh Y, Pula, J. H., **Sosnoff, J. J.,** & Motl, R. M. (2012). Two conditions of administering the 6-minute walk in persons with MS. *International Journal of MS Care*, 14, 77.
- Sosnoff JJ,** Socie MJ, Sandroff BM, Pilutti LA, Pula JH & Motl RW. Walking impairment and gait variability in multiple sclerosis. *International Journal of MS Care*, 14, 82
- Pilutti LA, Sandroff, BM, Dlugonski D, Balantrapu S, Suh Y, Pula, J. H., **Sosnoff, J. J.,** & Motl, R. M. (2012). Multiple Sclerosis Walking Scale-12 Scores and gait parameters. *International Journal of MS Care*, 14, 87.
- Boes MK,** Motl RM & **Sosnoff, JJ.** (2012). Dual task, mobility and fall risk in persons with multiple sclerosis. *International Journal of MS Care*, 14, 89.
- Balantrapu S, Socie MJ, Sandroff BM, Pilutti LA, Pula JH & **Sosnoff JJ,** Motl RW. (2012). Validation of the six spot step test as a measure of ambulation in multiple sclerosis. *International Journal of MS Care*, 14, 91.
- Coote S, Finlayson M, **Sosnoff JJ** (Oct 2012). Mobility status and falls in persons with multiple sclerosis. Second International Symposium on Gait and Balance in Multiple Sclerosis. Portland, OR.
- Sosnoff JJ** Moon Y, Wajda DA, Finlayson M, McAuley E, Peterson E, Morrison S, Motl RW. (June 2014). Fall Risk Reduction in Individuals with MS: Pilot Examination of Exercise and Education. Annual Meeting of Consortium of MS Centers, Dallas, TX.

Wadja DA, Motl RW, **Sosnoff JJ**. (June 2014). Gait Initiation and Fall Risk in Individuals with MS. Annual Meeting of Consortium of MS Centers, Dallas, TX.

Chruzander C, Johansson S, Peterson E, Rice LA, **Sosnoff JJ**, A Widen Holmquist, L Von Koch, C Yetterberg. (September 2014). Falls among non-ambulatory individuals with multiple sclerosis: an international expert panel consensus statement. MS Boston 2014: Joint meeting of American Committee on Treatment and Research in MS and European Committee on Treatment and Research in MS. Boston, MA.

Sosnoff JJ, Klaren R, Pilutti LA, Dlugonski D, Motl RW (September 2014). Reliability of clinically feasible gait analysis in multiple sclerosis. MS Boston 2014: Joint meeting of American Committee on Treatment and Research in MS and European Committee on Treatment and Research in MS. Boston, MA.

Finlayson M, Cattaneo D, Cameron M, Coote S, Freeman J, Gunn H, Jonsdottir J, Matsuda P, Peterson E, **Sosnoff J**. The international MS falls prevention research network: development and direction. *Multiple Sclerosis Journal*. 2015;21(4): 520.

Roeing, K. L., Wajda, D. A., Motl, R. W., & **Sosnoff, J. J.** (2015). Gait termination in individuals with multiple sclerosis. *International Journal of MS Care*, 17, S29.

Sosnoff, J. J., Wajda, D. A., Pilutti, L. A., Ousley, C., Sung, J., & Motl, R. W. (2015). Body weight supported treadmill training in people with multiple sclerosis with mobility limitations. *International Journal of MS Care*, 17, S76.

Wajda, D. A., Motl, R. W., & **Sosnoff, J. J.** (2015). Falls in older individuals with multiple sclerosis. *International Journal of MS Care*, 17, S30.

Sosnoff JJ, Jayaraman C, Moon Y, Rice IM, & Hsiao-Weckler ET. (2015). Shoulder Pain and Variability in Manual Wheelchair Propulsion. 10th Annual NIH Pain Symposium, Bethesda, MD.

Rice LA, Kalron A, Berkowitz SH, Backus D, **Sosnoff JJ**. Fall prevalence in wheeled mobility device users living with multiple sclerosis. 4th Annual International Symposium on Gait and Balance in Multiple Sclerosis. Portland, OR.

Matsuda PN, Ciol M, **Sosnoff JJ**, Kraft G (2015) Measures of falls risk in persons with Multiple Sclerosis: a comparative study of the Timed Up-and-Go and Timed Up-and-Go Cognitive test. 4th Annual International Symposium on Gait and Balance in Multiple Sclerosis. Portland, OR.

Sosnoff JJ (2015). Rehabilitation strategies to reduce Cognitive motor interference in walking in MS. American Congress of Rehabilitation Medicine. Dallas, Texas

Sosnoff JJ (2015). Spasticity and mobility in individuals with multiple sclerosis. American Congress of Rehabilitation Medicine. Dallas, Texas

Roeing K, Wajda, D. A., & **Sosnoff, J. J.** (2016). Novel Biomarker of Balance Impairment in Minimally Impaired Individuals with Multiple Sclerosis. *International Journal of MS Care*, 18, S30.

Yaejin Moon, R.S. McGinnins, K. Seagers, R.W. Motl, N. Sheth, J.A. Wright Jr., R. Ghaffari, **J.J. Sosnoff**. (Nov 2016). Monitoring gait in Multiple Sclerosis with novel wearable motion sensors, American Congress of Rehabilitation Medicine, Chicago, Illinois

Yaejin Moon, **J.J. Sosnoff**. (Nov 2016). Safe landing strategies during a fall: Systematic review and meta-analysis, American Congress of Rehabilitation Medicine, Chicago, Illinois Poster

Yaejin Moon, K.L. Roeing, V. Ramkrishnan, R. Ratnam, N. Sheth, **J.J. Sosnoff**. (Nov 2016). Fall Risk Assessment: The potential for home-based technology, American Congress of Rehabilitation Medicine, Chicago, Illinois Poster

Devos H, Akinwuntan A, **J.J. Sosnoff**. (Nov 2016). Fall Risk and driving performance in persons with Multiple Sclerosis, American Congress of Rehabilitation Medicine, Chicago, Illinois Poster.

Sosnoff JJ, Jayaraman C, Beck C (Nov 2016). Shoulder pain and trunk kinematics in manual wheelchair propulsion. American Congress of Rehabilitation Medicine, Chicago, Illinois Poster.

Supervision of Student Research

McNair Scholars Program

I have served as or am currently serving Director of Research for

Jeremy Butler, Force control in manual wheelchair users, June-August 2009

Higgins Durand, Aging and oral and manual motor variability, June-August 2010

Cherita Ousley, Spasticity and mobility in persons with multiple Sclerosis, June-August 2011.

Matthew Weasley, Variability of gait kinematics in persons with multiple sclerosis, August 2011-May 2012.

Undergraduate Senior Thesis Research

I have served as or am currently serving Director of Research for

Jared Kennedy, Age-related differences in force variability, graduated May 2008

James Scholar Project

I have served as or am currently serving Director of Research for

Anna Wetzel, Predictors of dual-task cost in persons with MS

Justine Meyers, Fall risk in persons with multiple sclerosis

Jamie Rymut, BS, Falls in Older Adults with MS, research project supervisor, May 2017

Master Thesis Research

I have served as or am currently serving Director of Research for:

Stefani Voudrie, MS, Joint angle and torque control in the Quadriceps muscle group, graduated Dec 2008.

Karla Wessels, MS, Shoulder Pain and Joint Laxity in Manual Wheelchair Users, graduated May 2009.

Jennifer Brown, MS, Muscle Strength and Shoulder Pain in Manual Wheelchair Users, graduated May 2009.

Jean Samson, MS, Aging and variability in thought and action, Kinesiology, graduated May 2010.

Morgan Boes, MS, Postural control in multiple sclerosis: effects of disability and dual task, Bioengineering, graduated Dec 2011.

Zahid Rampurawala, MS, Motor Variability in Wheelchair Propulsion, Kinesiology, graduated May 2011.

Scott Diagle, MS, Intelliwheels: Design of CVT for manual Wheelchairs, Mechanical Engineering, graduated December 2011

Michael J. Socie, MS, Gait variability in persons with Multiple Sclerosis, Mechanical Engineering, graduated May 2011

Yaejin Moon, Variability of peak shoulder force during wheelchair propulsion as a function of shoulder pain, Kinesiology, graduated May 15, 2013

Jong Hun Sung, , The acute effect of body weight supported treadmill training on spasticity in persons with MS, Kinesiology, graduated Dec 15, 2013.

Chandrasekaran Jayaraman, Kinematic variability in wheelchair propulsion, kinesiology, Aug 15, 2014.

Kathleen Roeing, Use of smartphone based accelerometry to measure fall risk in older adults, Kinesiology, expected May 2017

I have served or currently served as a MS committee member for:

Edward Ofori, MS, Discrete and Continuous Force Control, graduated Dec 2008.

Brain Sandroff, MS, Physical fitness, walking performance and gait in multiple sclerosis, May, 2012

Doctorate Thesis Research

I have served as or am currently serving Director of Research for:

Sunghoon Shin, Spinal Cord Injury and Seated Postural Control, Kinesiology, graduated August 2012.

Assistant Professor, Department of Human Ecology and Kinesiology, Youngnam University, South Korea, 2014-present

Karla Wessels, Concussion incidence and assessment in wheelchair athletes, Kinesiology, graduated December 2013.

Assistant Professor, Director of Athletic Training Program, Department of Kinesiology and Health Studies, Georgetown College, Georgetown, Kentucky

Chandsekran Jayaraman, Variability in Wheelchair Propulsion, Department of Industrial and Enterprises Engineering, graduated May 2016

Research Associate, Rehabilitation Institute of Chicago

Douglas A. Wajda, Cognitive-Motor Inference in Neurodegenerative Diseases, Kinesiology, graduated August 2016

Visiting Assistant Professor, Department of Exercise Science, Cleveland State University, Cleveland Ohio

Christina Bronson-Love, Oral motor complexity in older adults, research chair (speech and hearing sciences), expected August 2017

Yaejin Moon, Teaching older adults to fall safely, Kinsiology, expected Dec 2018

Tyler Wood, Pupilometry as an index of cognitive motor interference in clinical populations, research advisor, expected May 2019

Katherine Hseih, Mobility impairment in cancer survivors, research advisor, expected May 2019

I have served or currently served as a PhD committee member for:

Richard Doyle, Generalization of postural control, Kinesiology.

Jonas Contakos, Perception of Rotational Biological Motion, Kinesiology

HeenCheong Chon, Kinematics of stuttering, Speech and Hearing Sciences

Matthew Sabin, The introduction of the condition-modified star excursion balance test, Kinesiology and Community Health

Marco Boscolo, Optimization of adhesive athletic tape: A Tauguchi method based study, Kinesiology and Community Health

Jong Il Lim, Visual search strategy and interception accuracy, Kinesiology and Community Health

Edward Ofori, Aging, sensory feedback and force control, Kinesiology and Community Health.

Davis Moore, The influence of pediatric concussion on cognitive control and neuroelectric function, Kinesiology and Community Health

PROFESSIONAL SERVICES

Served on the following committees:

Department of Kinesiology and Community Health

Coordinator Health Disparity and Disability ('13-'16)

Kinesiology PhD student required teaching (Spring 2008); Kinesiology Education Policy Committee (Fall '09-Spring 10; Spring '13); Kinesiology Ad Hoc Committee on Course Fees (Spring 2010;2011;2012;2013); HHD search Committee – fall 2012; fall 2013; Falls/Fall Prevention search Committee (Fall '13; Chair); Health Technology and Aging Search Committee (Chair, '17);

College of Applied Health Sciences:

College of Applied Health Sciences Education Policy Committee (Fall '11-2014; Co-Chair '13),

Experience AHS Planning Committee (Fall '11-Spring '12).

Disability-Veterans Issues Search Committee (Spring '13; Chair Fall '14; Fall '16)

Health Technology Committee (Spring '15)

Director, Center for Wounded Veterans in Higher Education, Search Committee (Sp '16)

CAMPUS

IRB – Biomedical (Fall '12-Fall '16)

General Education Board – UIUC (Fall '12-Sp15)

Chancellor's Visioning Future Excellence Speaker Series, Steering Committee, (Spring '13)

Provost's Committee for Campus Conversation on Undergraduate Education, (Facilitator; Fall '13-Spring '14)

Working Group on Campus Conversation on Undergraduate Education, International Campus in a Global World (Spring '14)

Center for Wounded Warriors in Higher Education, Research Steering Committee (Chair, Fall '14-present)

Faculty/Staff Assistance Program Advisory Committee (Fall '15-present)

Office of Technology Management Advisory Committee (Sp'16-present)

Entrepreneurial Roundtable (Sp'17-present)

Cognition, Lifespan Engagement, Aging and Resilience Award Committee, Beckman Institute (Sp'17-)

Illinois Data Science Initiative, Steering Committee (Sp'17)

Fall Prevention Advisory Panel, Fall Prevention Design Challenge, OpenIdeo, AARP and United Healthcare (Spring '17)

Editorial Board:

ISRN Rehabilitation (Fall '11-'13).

Journal of Motor Behavior (Spring '13-present)

Biomed Research International (Spring '13-present)

International Journal of Multiple Sclerosis Care (Fall '16-present)
Research Quarterly for Exercise and Sport (Spring '17-present)

Professional Organizations:

Organized and moderated Symposium on Aging and Motor Control, North American Society for Psychology of Sport and Physical Activity (NASPSPA), June 2006 (Denver).

Moderated slide presentation focusing on Perception and Action, North American Society for Psychology of Sport and Physical Activity (NASPSPA), June 2008 (Niagra Falls, Canada).

Moderated slide presentation focusing on Timing, Coordination and Interdisciplinary Studies, North American Society for Psychology of Sport and Physical Activity (NASPSPA), June 2009 (Austin, TX).

Served on the Program Committee for the 2011 North American Society for Psychology of Sport and Physical Activity (NASPSPA), Burlington, VT.

Organized and moderated Symposium on Motor Control and Multiple Sclerosis, North American Society for Psychology of Sport and Physical Activity (NASPSPA), June 2011 (Burlington, VT).

Organized and moderated Symposium on Falls in Non-ambulatory Individuals with multiple Sclerosis, Karolinska Institutet, Stockholm, Sweden. (March 2014).

Serve on the Steering Committee for the Neurodegenerative Disease networking group for the American Congress of Rehabilitation Medicine (Fall '13-present).

Reviewing:

Manuscripts/Text:

Have reviewed manuscripts for the following journals: *Annals of Biomedical Engineering*, *Archives of Physical Medicine & Rehabilitation*, *BMC Medical Methodology*, *Clinical Neurophysiology*, *Disability and Rehabilitation*, *European Journal of Applied Physiology*, *European Journal of Physical Medicine and Rehabilitation*, *European Journal of Neurology*, *Exercise and Sport Science Reviews*, *Experimental Brain Research*, *Human Movement Sciences*, *International Journal of Sports Psychology*, *International Journal of Sports Medicine*, *Journal of Advance Research*, *Journal of Biomechanics*, *Journal of Applied Physiology*, *Journal of American Geriatric Society*, *Journal of Gerontology: Psychological Sciences*, *Journal of Motor Behavior*, *Journal of Neurological Sciences*, *Journal of Neurophysiology*, *Journal of Personality*, *Journal of Rehabilitation Research and Development*, *Medicine and Science in Sport and Exercise*, *Motor Control*, *Muscle & Nerve*, *Neuroscience Letters* and *Physiological Measurement*.

Have reviewed the following texts: *Handbook of the Psychology of Aging* (2008), *Motor Control* (2010)

Grant Reviewer

Internal

Have served as ad hoc grant reviewer for the Research Board at the University of Illinois at Urbana-Champaign.

Grant reviewer for Center on Health, Aging and Disability seed funding mechanism (2015-current).

Chair CWWHE seed grant review committee (Fall 2015-present)

External

Have served as an ad hoc grant reviewer for:

- European Science Foundation's Motor Control and Perception Panel (Dec 2009, Spring 2014)
- National Multiple Sclerosis Society pilot grant project (Spring 2011, Spring 2012).
- Ireland Health Research Board (Fall 2012).
- Multiple Sclerosis Australia (Summer 2012; 2015; 2016).
- Joint Projects 2012: University of Verona (Spring 2013).
- MS Society (United Kingdom; Spring 2013)
- NIH study section: Sensorimotor Learning: ZRG1-IFCN-B-04M (Spring '13); Aging Systems and Geriatrics Study Section
- United Arab Emirates University: Program for Advanced Research (2015)

Member of Patient Management, Care, and Rehabilitation Review Committee for the National Multiple Sclerosis Society (Fall 2015-Spring 2018)

Member of Congressionally Directed Medical Research Program, Multiple Sclerosis Research Program, Exploration-Hypothesis Development Review Committee for the US Army Medical Research and Material Command, DOD (2016)

Have served as a reviewer for College of Reviewers for the Canada Research Chairs Program

PROFESSIONAL MEMBERSHIP

American Congress of Rehabilitation Research

Consortium for Multiple Sclerosis Centers

International Multiple Sclerosis Fall Prevention Research Network (Founding Member, Executive Committee)