

ANDREW SAWERS

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EDUCATION

2012-2015 Emory University, Atlanta, GA
Postdoctoral Fellow (*Biomedical Engineering*)

2008-2012 University of Washington, Seattle, WA
Ph.D (*Rehabilitation Medicine*)

2003–2005 Georgia Institute of Technology, Atlanta, GA
M.S.P.O (*Prosthetics/Orthotics*)

1997-2002 University of Calgary, Calgary, AB
B.S (*Kinesiology, Biomechanics*)

ACADEMIC APPOINTMENTS

2015-present	University of Illinois at Chicago, Chicago, IL	Asst. Professor, Department of Kinesiology
2015-present	University of Illinois at Chicago, Chicago, IL	Affiliate, Department of Bioengineering
2008-2012	University of Washington, Seattle, WA	Graduate Research Assistant
2005-2008	University of Rochester, Rochester, NY	Prosthetist

LICENSES / CERTIFICATION

2007-Present American Board for Certification in Prosthetics and Orthotics

PROFESSIONAL SERVICE

SOCIETY MEMBERSHIPS

2008-Present	American Society of Biomechanics (ASB)
2012-Present	Society for the Neural Control of Movement (NCM)
2013-Present	Society for Neuroscience (SfN)
2004-2013	American Academy of Orthotists and Prosthetists (AAOP)

SERVICE TO PROFESSIONAL ORGANIZATIONS

2014-Present	Orthotic and Prosthetic Education Research Foundation Vice-Chair
2010-Present	Orthotic and Prosthetic Education Research Foundation Grant Reviewer
2010-2012	AAOP Annual Meeting Clinical Content Committee Member

MANUSCRIPT REVIEWER

Acta Physiologica	Clinical Biomechanics
Annals of Biomedical Engineering	Computer Methods and Programs in Biomedicine
Applied Biomechanics	Developmental Psychobiology
Archives of Physical Medicine and Rehabilitation	Gait and Posture
Biology of Sex Differences	Scientific Reports
Chaos	Journal of Rehabilitation Research and Development
Journal of Physical Therapy	
Journal of Biomechanics	
Journal of Neurophysiology	
Journal of Neuroscience	

CURRENT RESEARCH SUPPORT

NIH K12HD073945 (Sawers, PI)

01/01/2016-01/01/2018

Neuromuscular Determinants of Balance Failures

OPERF-2016-SGA-1 (Sawers, PI)

06/01/2016-06/01/2017

Development of a novel beam-walking test to improve fall risk assessment lower limb prosthetic users

SELECTED PUBLICATIONS:

ACCEPTED AND PUBLISHED MANUSCRIPTS

1. **Sawers A**, Bhattacharjee T, McKay JL, Hackney ME, Kemp CC, Ting LH. (2017) Small forces that differ with prior motor experience can communicate movement goals during human-human physical interaction. *Journal of NeuroEngineering and Rehabilitation* 14(1):8-20.
2. **Sawers A**, Pai YC, Bhatt T, Ting LH. (2017) Neuromuscular responses differ between slip-induced falls and recoveries in older adults. *Journal of Neurophysiology* 117(2):509-22.
3. **Sawers A**, Allen JL, Ting LH. (2016) Long-term training modifies the modular structure and organization of walking balance control. *Journal of Neurophysiology* 114(6):3359-73.
Hafner BJ, **Sawers A**. (2016) Issues affecting the level of prosthetic research evidence: Secondary analysis of a systematic review. *Prosthetics and Orthotics International* 40(1):31-43.
4. **Sawers A**, Ting LH. (2015) Beam walking can detect differences in walking balance proficiency across a range of sensorimotor abilities. *Gait and Posture* 41(2): 619-23.
5. **Sawers A**, Ting LH. (2014). Perspectives on Cooperative Human-Human Sensorimotor Interactions for the Design of Rehabilitation Robots. *Journal of Neuroengineering and Rehabilitation* 11(1): 142-166.
6. Bolger D, Ting LH, **Sawers A**. (2014). Individuals with transtibial limb loss use interlimb force asymmetries to maintain multi-directional reactive balance control. *Clinical Biomechanics* 29(9): 1039-47.
7. Hafner BJ, **Sawers A**. (2014). Issues affecting the level of prosthetics research evidence: secondary analysis of a systematic review. *Prosthetics and Orthotics International* DOI: 10.1177/0309364614550264.
8. **Sawers A**, Kelly VE, Kartin D, Hahn ME. (2013). Gradual training reduces the challenge to lateral balance control during practice and subsequent performance of a novel locomotor task. *Gait and Posture* 38(4): 907-911.
9. **Sawers A**, Hahn ME. (2013). Gradual training reduces practice difficulty while preserving motor learning of a novel locomotor task. *Human Movement Sciences* 32(4): 605-617.
10. **Sawers A**, Kelly VE, Hahn ME. (2013). Effects of gradual versus sudden training on the cognitive demand required while learning a novel locomotor task. *J. Motor Behavior* 45(5): 405-414.
11. **Sawers A**, Hafner BJ. (2013). Outcomes associated with the use of microprocessor-controlled prosthetic knees among individuals with unilateral transfemoral limb loss: A systematic review. *J. Rehabilitation Research and Development* 50(3): 273-314.
12. **Sawers A**, Hahn, ME, Kelly VE, Czerniecki JM, Kartin D. (2012). Beyond componentry: How principles of motor learning can enhance the rehabilitation of individuals with lower limb loss. *J. Rehabilitation Research and Development* 49(10): 1431-1442.
13. **Sawers A**, Hahn ME. (2012). Control of whole-body frontal plane balance varies within a step during unperturbed walking. *Gait and Posture* 36(2): 322-4.

14. **Sawers A**, Hahn ME. (2011). Trajectory of the center of rotation in non-articulated energy storage and return prosthetic feet. *J. Biomechanics* 44(9): 1673-7.
15. **Sawers A**, Hahn ME. (2010). The potential for error with the use of inverse dynamic calculations in gait analysis of individuals with lower limb loss: A review of model selection and assumptions. *Journal of Prosthetics and Orthotics* 22(1): 56-61.
16. **Sawers A**, DiPaola CP, Rehtine GR 2nd. (2009). Suitability of the noninvasive halo for cervical spine injuries: a retrospective analysis of outcomes. *Spine J* 9(3): 216-20.
17. DiPaola CP, **Sawers A**, Conrad BP, Horodyski M, DiPaola MJ, Del Rossi G, Rehtine GR 2nd. (2009). Comparing cervical spine motion with different halo devices in a cadaveric cervical instability model. *Spine* 34(2): 149-55.
18. Pardy C, Wohl G, Ukrainetz P, **Sawers A**, Boyd S, Zernicke R. (2004). Maintenance of Bone Mass and Architecture in Denning Black Bears (*Ursus americanus*). *London Journal of Zoology* 263:359-364.

CONFERENCE PRESENTATIONS

1. **Sawers, A.**, Olveczky, B., Picard, N., Allen, J.A. Society of the Neural Control of Movement 26th Annual Meeting entitled "Neural mechanisms of motor skill in health and impairment" Montego Bay, Jamaica, April 2016.
2. Steele, K., Kutch, J., Roh, J., Cheung, V.C.K., Torres-Oviedo, G., Shuman, B., **Sawers, A.** International Society of Electromyography and Kinesiology Congress, entitled "Clinical applications of muscle synergies" Chicago, IL, June 2016.
3. Allen, J. L., **Sawers, A.**, Ting, L. H. The same library of muscle synergies are shared across diverse locomotor tasks. Podium talk presented at International Society of Electromyography and Kinesiology Congress, Chicago, IL June, 2016.
4. Gomez-del Campo, A. C., **Sawers, A.**, Payne, A. M., Ting, L.H. Center of pressure mean velocity predicts single limb stance time in experts and novices. Poster presented at International Society of Electromyography and Kinesiology Congress, Chicago, IL June, 2016.
5. **Sawers, A.**, Allen, J. L., Ting, L. H. Long-term training modifies the modular structure and organization of walking balance control. Poster presented at Biomechanics and Neural Control of Movement Conference, Mt. Sterling, OH June, 2016.
6. **Sawers A**, Ting LH. Expertise in balance is mediated by a shared set of muscle synergies that generalize across motor behaviors. 25th Annual Meeting of the Society for the Neural Control of Movement. Charleston, SC, 2015.
7. Payne A, **Sawers A**, Allen JL, Ting LH. Redundant levels of modular motor control revealed by peripheral sensory loss. 25th Annual Meeting of the Society for the Neural Control of Movement. Charleston, SC, 2015.
8. **Sawers A**, Ting LH. Expertise in balance is mediated by a shared set of muscle synergies that generalize across motor behaviors. Society for Neuroscience. Washington, DC, 2014.
9. **Sawers A**, Ting LH. Small forces can communicate movement goals and distinguish motor expertise during human-human sensorimotor interaction. 24th Annual Meeting of the Society for the Neural Control of Movement. Amsterdam, 2014.
10. **Sawers A**, Ting LH. Small forces can communicate movement goals and distinguish skill level during human-human sensorimotor interaction. 2nd ASU Rehabilitation Robotics Workshop. Tempe, AZ, 2014.
11. **Sawers A**. Increased hip torque rather than step width is used to maintain medial-lateral locomotor stability during challenges to balance control. 23rd Annual Meeting of the Society for the Neural

Control of Movement. San Juan, PR, 2013.

12. **Sawers A**, Hahn ME. Active control of lateral balance varies throughout a step during treadmill walking. 36th Annual Meeting of the American Society of Biomechanics. Gainesville, FL, 2012.
13. **Sawers A**, Hahn ME. Incremental training: Reducing challenges to balance control while learning a novel locomotor task. 35th Annual Meeting of the American Society of Biomechanics. Long Beach, CA, 2011.
14. **Sawers A**, Hahn ME. Axis of rotation position in non-articulated prosthetic feet: Implications for joint kinetics. American Academy of Orthotists and Prosthetists Annual Meeting and Scientific Symposium, Orlando, FL, 2011.
15. **Sawers A**, Hahn ME. Center of rotation in non-articulated prosthetic feet: Implications for prosthetic foot kinetics. 34th Annual Meeting of the American Society of Biomechanics. Providence, RI, 2010.
16. **Sawers A**, Hafner B. The impact of microprocessor-controlled prosthetic knees on outcomes among individuals with unilateral transfemoral or knee disarticulation limb loss: A systematic review. American Academy of Orthotists and Prosthetists Annual Meeting and Scientific Symposium, Chicago, IL, 2010.
17. **Sawers A**, Hahn ME. Error analysis of a mis-located ankle joint axis: Implications for prosthetic foot efficiency. Northwest Biomechanics Symposium, Pullman, WA, 2009.