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Education

2005-2010	Postdoc	Department of Neuroscience, University of Minnesota-Twin Cities, Minneapolis, Minnesota
2002-2005	Ph.D.	Department of Kinesiology, NSF-IGERT Fellow Arizona State University, Tempe, Arizona
2000-2002	M.S.	Department of Exercise Science and Physical Education Arizona State University, Tempe, Arizona
1995-1999	B.A.	Department of Psychology University of Minnesota-Duluth, Duluth, Minnesota

Positions / Research Experience

2017-present	Assistant Professor, School of Sport and Exercise Science, University of Northern Colorado
2012-2017	Assistant Professor, School of Kinesiology, Louisiana State University
2010-2012	Research Associate, Department of Neuroscience, University of Minnesota
2005-2010	Postdoctoral Associate, Department of Neuroscience, University of Minnesota
2002-2005	Research Assistant, Neural Control of Movement Lab, Arizona State University
2000-2002	Master's Thesis Research, Neural Control of Movement Lab, Arizona State University
1998-1999	Undergraduate Research Opportunity Program, Principal Investigator (2 projects) University of Minnesota-Duluth

Publications

Young KE, **Winges SA** (2017). Thumb-Rest Position and its Role in Neuromuscular Control of the Clarinet Task. Medical Problems of Performing Artists. 32(2):71-77.

Hondzinski JM, Soebbing CM, French AE, & **Winges SA** (2016). Different damping responses explain vertical endpoint error differences between visual conditions. Experimental Brain Research, 234(6):1575-87.

Winges SA (2015). Somatosensory feedback refines the perception of hand shape with respect to external constraints. Neuroscience. 293:1-11.

Winges SA Furuya S (2015). Distinct digit kinematics by professional and amateur pianists. Neuroscience 284, 643–652.

Winges SA, Furuya S, Faber NJ, and Flanders M (2013) Patterns of muscle activity for digital coarticulation. Journal of Neurophysiology, Jul; 110(1):230-42.

Winges SA and Soechting JF. (2011) Spatial and temporal aspects of cognitive influences on smooth pursuit. *Experimental Brain Research*, 211: 27-36.

Winges SA, Eonta SE, and Soechting JF. (2010) Does temporal asynchrony affect multimodal curvature detection? *Experimental Brain Research,* 203: 1-9.

Winges SA, Eonta SE, and Soechting JF, and Flanders M. (2009) Effects of object compliance on three-digit grasping. *Journal of Neurophysiology*, 101: 2447-2458.

Johnston JA, **Winges SA**, and Santello M (2009). Neural control of hand muscles during prehension. *Advances in Experimental Medicine and Biology*, 629: 577-596.

Winges SA, Eonta SE, Soechting JF, and Flanders M. (2008) Multi-digit control of contact forces during rotation of a hand-held object. *Journal of Neurophysiology* 99: 1846-1856.

Winges SA, Kornatz KW, and Santello M. (2008) Common input to motor units of intrinsic and extrinsic hand muscles during two-digit object hold. *Journal of Neurophysiology*, 99: 1119-1126.

Winges SA, Soechting JF, and Flanders M. (2007) Multi-digit control of contact forces during transport of hand-held objects. *Journal of Neurophysiology* 98: 851-860.

Winges SA, Kundu B, Soechting JF, and Flanders M. (2007) Intrinsic Hand Muscle Activation for Grasp and Horizontal Transport, *Eurohaptics* 1:39-43.

Winges SA, Johnston JA, and Santello M. (2006) Muscle-pair specific distribution and grip-type modulation of neural common input to extrinsic digit flexors. *Journal of Neurophysiology* 96: 1258-1266.

Winges SA and Santello M. (2005) From single motor unit activity to multiple grip forces: Mini-review of multi-digit grasping. *Integrative and Comparative Biology* 45: 679-682.

Johnston JA, **Winges SA**, and Santello M. (2005) Periodic modulation of motor-unit activity in extrinsic hand muscles during multidigit grasping. *Journal of Neurophysiology* 94: 206-218.

Winges SA and Santello M. (2004) Common input to motor units of digit flexors during multi-digit grasping. *Journal of Neurophysiology* 92: 3210-3220.

Johnston JA, **Winges SA**, and Santello M. (2004) Neuromuscular determinants of force coordination during multidigit grasping. *Conf. Proc. IEEE Eng Med Biol Soc.*, pp 4645-4648. San Francisco, CA, USA.

Winges SA, Weber D J, and Santello M. (2003) The role of vision on hand pre-shaping during reach to grasp. *Experimental Brain Research* 152: 489-98.

Scholarly Presentations

Winges SA, Young KE. **Clarinetist's choice: Should instrument selection be based on size?** *NASPSPA conference,* San Diego, CA, USA: June 2017. Poster presentation.

Winges SA, Acharya PK. Effects of training on independent finger movements. *45th Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2016. Poster presentation.

Acharya PK, **Winges SA.** Performance of a texting task is influenced more by content than whole body motion: Standing vs. walking during a texting task. *NASPSPA conference,* Montreal, QC, Canada June 2016. Poster presentation.

Winges SA, Young KE. Neuromuscular control in Clarinetists: does thumb-rest position matter? *44th Meeting of the Society for Neuroscience*, Chicago IL, USA: October 2015. Poster presentation.

Acharya P, Amedee A, Amedee J, **Winges SA**. Texting on the go: Multi-muscle activation patterns during a dual-task performance. *44th Meeting of the Society for Neuroscience*, Chicago IL, USA: October 2015. Poster presentation.

Winges SA, Hondzinski JM. Multi-muscle activation patterns for fine and gross pointing movements differ across visual conditions. *NASPSPA conference,* Portland, OR, USA June 2015. Oral presentation.

Hondzinski JM, **Winges SA.** Precision of fine and gross pointing movements differs across visual conditions. *NASPSPA conference*, Portland, OR, USA June 2015. Oral presentation.

Winges SA. Influence of musical training on neuromuscular coarticulation during sequential finger movements. *43rd Meeting of the Society for Neuroscience*, Washington, D.C., USA: November 2014. Poster presentation

Hondzinski JM, **Winges SA**. Precision of fine and gross pointing movements differs across visual conditions. *43rd Meeting of the Society for Neuroscience*, Washington, D.C., USA: November 2014. Poster presentation

Winges SA, Furuya S. Sequence-dependent hand kinematics by professional and amateur pianists. *42nd Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2013. Poster presentation.

Winges SA, Furuya S, Flanders M. Hand muscle activation for digital articulation in pianists. *42nd Meeting of the Society for Neuroscience,* New Orleans, LA, USA: October 2012. Poster presentation.

Winges SA, Furuya S, Flanders M. Patterns of hand muscle activation in pianists: From amateur to expert. *22nd Annual Meeting of the Society for the Neural Control of Movement,* Venice, Italy: April 2012. Poster presentation.

Winges SA, Pundi, K. Patterns of muscle activation for restricted hand postures. *41st Meeting of the Society for Neuroscience,* Washington, D.C., USA: November 2011. Poster presentation.

Winges SA, Ames JC, and Soechting JF. Predicting abrupt changes in target direction during ocular pursuit. *40th Meeting of the Society for Neuroscience,* San Diego, CA, USA: November 2010. Poster presentation.

Winges SA, Eonta SE, and Soechting JF. Multimodal curvature detection and temporal asynchrony. *39th Meeting of the Society for Neuroscience,* Chicago, IL, USA: October 2009. Poster presentation.

Winges SA, Eonta SE, Flanders M, and Soechting JF. Effects of object compliance on three-digit grasping. *19th Annual Conference of the Society for the Neural Control of Movement,* Waikoloa, Hawaii, USA: April 2009. Poster presentation.

Winges SA, Eonta SE, Flanders M, and Soechting JF. Effect of compliance on contact force and EMG patterns for a tripod grasp. *38th Meeting of the Society for Neuroscience,* Washington, DC, USA: November 2008. Poster presentation.

Winges SA. Taking advantage of the compliant properties of the hand for object manipulation. *On the Shoulders of a Giant: A tribute to the scientific contributions of John F. Soechting*. Vienna, Austria: October 2008. Oral presentation.

Winges SA, Eonta SE, Flanders M, and Soechting JF. Contact force and EMG patterns for three-dimensional rotation of a hand-held object. *37th Meeting of the Society for Neuroscience,* San Diego, CA, USA: November 2007. Poster presenter.

Winges SA, Kundu B, Soechting JF, and Flanders M. Intrinsic Hand Muscle Activation for Grasp and Horizontal Transport. *Second Joint EuroHaptics Conference and Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems (WHC'07)*, Tsukuba, Ibaraki, Japan, March 2007. Oral presentation.

Winges SA and Soechting JF. Control of grasping forces during object manipulation and transport. *36th Meeting of the Society for Neuroscience,* Atlanta, GA, USA: October 2006. Poster presenter.

Winges SA, Kornatz KW, Santello M. Common input strength as a function of synergistic action of hand muscles during grasping. *35th Meeting of the Society for Neuroscience,* Washington, DC, USA: November 2005. Poster presenter.

Winges SA, Johnston JA, Santello M. Effect of grip type on strength of common input to extrinsic finger flexors. *34th Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2004. Poster presenter.

Winges SA. Effect of grip type on strength of common input to extrinsic finger flexors. *Exercise Science PhD seminar*: September 2004. Oral presentation

Winges SA and Santello M. "Control of whole hand grasping: A role for motor unit synchronization?" *Society for Integrative & Comparative Biology 2004 Annual Meeting,* New Orleans, LA, USA: January 2004. Oral presentation.

Winges SA Maurer K and Santello M. "Motor unit synchrony and force coordination during 5-digit grasping". *33rd Meeting of the Society for Neuroscience*, New Orleans, LA, USA: November 2003. Poster presenter.

Winges SA. Motor unit synchrony and force coordination during 5-digit grasping. *11th Conference of the International Graphonomics Society.* Scottsdale, AZ, USA: November 2003. Oral presentation.

Winges SA. Coordination of Grip Forces and Motor Unit Synchronization. *IGERT Research Symposium*. Pittsburgh, PA: June 2003. Oral presentation.

Winges SA. Motor Unit Synchronization in 5-Digit Grasping. *1st Annual Meeting of the Statewide Training Program in Movement Neuroscience*. Tempe, AZ: March 2003. Oral presentation.

Winges SA. Motor Unit Synchronization in 5-Digit Grasping. *IGERT Research Day*. Tempe, AZ: March 2003. Poster Presentation.

Winges SA., Weber DJ, Santello M. (2001). The role of vision in the gradual molding of the hand to object contours. *31st Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2001. Poster presentation.

Teaching Experience

2017-present	Assistant Professor, University of Northern Colorado Motor Learning and Development (SES 323)
2012-2017	Assistant Professor, Louisiana State University Lifespan Motor Development (KIN 4512) Neuromuscular Motor Control (KIN 7612) Life Course Motor Development (KIN 7420)
2010-2012	Lecturer, University of Minnesota-Twin Cities Introduction to Motor Learning and Control (KIN 3135) Movement Neuroscience (KIN 4441)
2006	Teaching Assistant, University of Minnesota-Twin Cities Introduction to Neuroscience II: Biological Basis of Behavior (NSci 3102W)
2005	Faculty Associate, Arizona State University Motor and Developmental Learning (KIN 345)
2000-2002	Lab Instructor, Arizona State University Motor and Developmental Learning (KIN 345)

	Instructor, Arizona State University Physical Education (EPE) classes: Aerobics, Tennis, Volleyball, Weight Training
1998-1999	Lab Instructor, University of Minnesota-Duluth General Psychology (PSY 1003)

Grants & Scholarships

2017	CHSE Dean's Auxiliary Faculty Research & Travel Grant Program, Louisiana State University ($1239; May 2017)
2016	Louisiana Board of Regents: Research Competitiveness Subprogram (RCS) - $197,060; Co-Primary Investigator. Project: 'Neuromuscular Coordination across the Upper and Lower Limbs following Stroke'. November 2016 (not funded)
	American Heart Association: Scientist Development Grant - $231,000; Co-Investigator. Project: 'Neuromuscular Coordination across the Upper and Lower Limbs following Stroke'. July 2016. (not funded)
	ORED Faculty Travel Grant, Louisiana State University ($750; August 2016)
2015	National Institutes of Health, NINDS, R01, "Neuromuscular control of hand coordination", Principal Investigator. (not funded)
	Louisiana Board of Regents, RCS. "Neuromuscular Coordination across the Upper and Lower Limbs following Stroke", Co-PI (not funded)
	ORED Faculty Travel Grant, Louisiana State University ($750; August 2015)
	CHSE Dean's Auxiliary Faculty Research & Travel Grant Program, Louisiana State University ($359 May 2015)
	Teaching Enhancement Fund, Louisiana State University ($500; March 2015)
2014	Council on Research, Faculty Research Grant 2014-2015, Louisiana State University ($10,000) ORED Summer Stipend 2014, Louisiana State University ($5,000; July 2014)
	ORED Faculty Travel Grant, Louisiana State University ($750; August 2014)
2013	ORED Junior Faculty Travel Grant, Louisiana State University ($500; August 2013)
2012	ORED Junior Faculty Travel Grant, Louisiana State University ($500; September 2012)
2011	National Institutes of Health, R01, "Plasticity in hand muscle activation", Principal Investigator. (1R01HD073106; not funded)
2010	Dystonia Medical Research Foundation, "Altering Motor Patterns in Skilled Hand Movements", Principal Investigator. (not funded)
2005	Ruth L. Kirschstein Pre-Doctoral National Research Service Award (F31), National Institutes of Health, National Institute of Neurological Disorders and Stroke "Modulation of Motor Unit Synchrony Strength in Grasping" Principal Investigator. (1F31NS050955; awarded; withdrawn after awarded)

2002-2005	Integrative Graduate Education and Research Traineeship Fellowship, National Science Foundation, "Neural and Musculoskeletal Adaptations in Form and Function"
2001	ASASU Conference Travel Grant Travel to the 31st Annual Meeting for the Society of Neuroscience
	Graduate Academic Scholarship, Arizona State University
1998-1999	University of Minnesota Undergraduate Research Opportunity Program grant "Effect of Bilateral Transfer on EMG Magnitude during Motor Movement" Principal Investigator. (Funded)
	University of Minnesota Undergraduate Research Opportunity Program grant "Effects of Aromatherapy on Physiological States". Principal Investigator. (Funded)
1998	E. W. Bohannon Scholarship for Academic Excellence and Service Psychology Department, University of MN, Duluth
1995-1999	Remmele Memorial Scholarship
1995-1996	Robert J. Sullivan Scholarship

Memberships

2003-present	Society for Neuroscience
2013-present	North American Society for the Psychology of Sport and Physical Activity (NASPSPA)
2008-2013	American Physiological Society
2014-2015	Motor Control and Learning Program Committee for 2015 NASPSPA Conference
2009, 2012	Society for the Neural Control of Movement
2002-2003	Phi Kappa Phi Honor Society

Ad Hoc Reviewer: Grants and Journals

National Science Foundation, Perception, Action, and Cognition Program

Experimental Brain Research

Journal of Applied Biomechanics

Journal of Electromyography and Kinesiology

Journal of Motor Behavior

Journal of Neuroscience

Journal of Neuroscience Letters

Journal of Neuroscience Methods

PLOS ONE