

# MARCO SANTELLO, Ph.D.

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**Laboratory Webpage** <http://kinesiology.clas.asu.edu/NCMLab>

## EDUCATION

1995 Ph.D. in Neurophysiology of Motor Control  
University of Birmingham, Birmingham, U.K.

1994 NATO Summer School on Multisensory Control of Movement  
Trieste, Italy

1991-1993 M.Phil. (Qual) in Neurophysiology of Motor Control  
University of Birmingham, Birmingham, U.K.

1991 I.E.L.T.S. British Council English Certificate, London, U.K.

1986-1990 Bachelor of Science in Kinesiology, *Summa Cum Laude*  
Istituto Superiore di Educazione Fisica, L'Aquila, Italy

**PROFESSIONAL EXPERIENCE**

**APPOINTMENTS AT ARIZONA STATE UNIVERSITY**

- Aug 2009      **Department of Kinesiology**  
Position: Full Professor
- Jan 2008      **PhD Programs in Bioengineering, Psychology, Speech and Hearing Sciences**  
Position: Graduate Faculty
- Aug 2004      **Department of Kinesiology**  
Position: Associate Professor
- Aug 2004      Position: Director, PhD Program
- Aug 2002-2004      Position: Director, Master's Program
- Sept 2000      **School of Biological and Health Systems Engineering**  
Position: Adjunct Faculty
- Aug 1999      **Department of Kinesiology**  
Position: Assistant Professor

**APPOINTMENTS AT OTHER INSTITUTIONS**

- Nov-Dec 2008      **Centro Interdipartimentale E. Piaggio, School of Engineering**  
**University of Pisa, Italy**  
Position: Visiting Professor (Sabbatical)
- Sept-Oct 2008      **Department of Biobehavioral Sciences**  
**Teachers College, Columbia University, New York, NY**  
Position: Visiting Professor (Sabbatical)
- Aug 2008      **Institute for Neural Computation, University of California San Diego,**  
**San Diego, CA**  
Position: Visiting Professor (Sabbatical)
- Jun 2008      **Barrow Neurological Institute, St. Joseph's Hospital and Medical Center**  
**Phoenix, AZ**  
Position: Research Associate Professor
- Dec 2007      **Department of Physiological Sciences, University of Catania, Italy**  
Position: Visiting Professor
- Jun 2005      **Mayo Clinic, Scottsdale, Arizona**  
Position: Visiting Scientist
- Mar 2005      **Department of Biobehavioral Sciences**  
**Teachers College, Columbia University, New York, NY**  
Position: Adjunct Faculty

- Department of Biobehavioral Sciences,  
Teachers College, Columbia University, New York, NY**  
Jul 2001 Position: Visiting Professor
- Department of Neuroscience, University of Minnesota, Minneapolis, MN**  
Jul 2000 Position: Visiting Professor
- Department of Physiology, University of Minnesota, Minneapolis, MN**  
1995-1999 Position: Postdoctoral Associate
- Department of Drama and Theatre Studies,  
University of Birmingham, Birmingham, U.K.**  
1994 Visiting Lecturer
- School of Sport and Exercise Sciences  
University of Birmingham, Birmingham, U.K.**  
1992-93-94 Position: Post-Graduate Teaching Assistant

**PEER-REVIEWED PUBLICATIONS**

(^1: mentored student; ^2: mentored postdoctoral associate)

1. Albert F<sup>2</sup>, **Santello M**, Gordon AM (in press). Sensorimotor memory of object weight distribution during multidigit grasping. *Neuroscience Letters*.
2. Lozano CA<sup>1</sup>, Kaczmarek KA, **Santello M** (2009). Electrotactile stimulation on the tongue: intensity perception, discrimination and cross-modality estimation. *Somatosensory and Motor Research* 26:50-63.
3. Ciocarlie M, Dang H, Lukos J<sup>1</sup>, **Santello M**, Allen P (2009). Functional analysis of finger contact locations during grasping. *Third Joint Eurohaptics Conference and Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems 2009*, 401-405.
4. McIsaac T<sup>2</sup>, **Santello M**, Johnston JA<sup>2</sup>, Zhang W<sup>2</sup>, Gordon AM (2009). Task-specific modulation of multi-digit forces to texture. *Experimental Brain Research* 194:79-90.
5. Lukos JR<sup>1</sup>, Ansuini C<sup>1</sup>, **Santello M** (2008). Anticipatory control of grasping: independence of sensorimotor memories for kinematics and kinetics. *Journal of Neuroscience* 28:12765-12774.
6. Warren JP<sup>1</sup>, Bobich LR<sup>1</sup>, **Santello M**, Sweeney JD, Helms Tillery SI (2008). Receptive field characteristics under electrotactile stimulation of the fingertip. *IEEE Transactions on Neural Systems and Rehabilitation Engineering* 16:410-415.
7. Winges SA<sup>1</sup>, Kornatz KW<sup>2</sup>, **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.
8. Boccaletti C, Castrica F, Fabbri G, **Santello M** (2008). A non-invasive biopotential electrode for the correct detection of bioelectrical currents. *Biomedical Engineering, IASTED Proceedings*, 353-358.

9. Muratori L<sup>1</sup>, McIsaac T<sup>2</sup>, Gordon AM, **Santello M** (2008). Impaired anticipatory control of force sharing patterns during whole-hand grasping in Parkinson's disease. *Experimental Brain Research* 185:41-52.
10. Bobich LR<sup>1</sup>, Warren JP<sup>1</sup>, Sweeney JD, Helms Tillery SI, **Santello M** (2007). Spatial localization of electrotactile stimuli on the fingertip in humans. *Somatosensory and Motor Research* 24:179-188.
11. Lukos J<sup>1</sup>, Ansuini C<sup>1</sup>, **Santello M** (2007). Choice of contact points during multi-digit grasping: effect of predictability of object center of mass location. *Journal of Neuroscience* 27:3894-3903.
12. Ansuini C<sup>1</sup>, **Santello M**, Tubaldi F, Massacesi S, Castiello U (2007). Control of hand shaping in response to object shape perturbations. *Experimental Brain Research* 180:85-96.
13. Wings SA<sup>1</sup>, Johnston JA<sup>2</sup>, **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.
14. Ansuini C<sup>1</sup>, **Santello M**, Massacesi S, Castiello U (2006). Effects of end-goal on hand shaping. *Journal of Neurophysiology* 95: 2456-2465.
15. Wings SA<sup>1</sup>, **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.
16. Johnston JA<sup>2</sup>, Wings SA<sup>1</sup>, **Santello M** (2005). Periodic modulation of motor unit activity in extrinsic hand muscles during multidigit grasping. *Journal of Neurophysiology* 94:206-218.
17. **Santello M** (2005). Review of motor control mechanisms underlying impact absorption from falls. (Invited Review). *Gait and Posture* 21:85-94.
18. Johnston JA<sup>2</sup>, Wings SA<sup>1</sup>, **Santello M** (2005). Neuromuscular determinants of force coordination during multidigit grasping. *IEEE/Engineering in Medicine and Biology Society, 26<sup>th</sup> Annual International Conference* Vol. 6: 4645-4648.
19. **Santello M**, Fuglevand AJ (2004). Role of across-muscle motor unit synchrony for the coordination of forces. *Experimental Brain Research* 159:501-508.
20. Wings SA<sup>1</sup>, **Santello M** (2004). Common input to motor units of digit flexors during multi-digit grasping. *Journal of Neurophysiology* 92:3210-3220.
21. **Santello M**, Muratori L<sup>1</sup>, Gordon AM (2004) Control of multi-digit grasping in Parkinson's Disease: effect of predictability of object center of mass. *Experimental Neurology* 187: 517-528.
22. Schieber MH, **Santello M** (2004). Hand function: Neural control and peripheral limits to performance. (Invited Review). *Journal of Applied Physiology* 96: 2293-2300.
23. Csavina KR<sup>1</sup>, He J, **Santello M** (2003). Postural response to slow perturbations: a preliminary study of young vs. elderly subjects. *IEEE/Engineering in Medicine and Biology Society, 25<sup>th</sup> Annual Meeting* 1774:1776.
24. Wings SA<sup>1</sup>, Weber DA<sup>1</sup>, **Santello M** (2003). The role of vision on hand pre-shaping during reach to grasp. *Experimental Brain Research* 152: 489-498.
25. Rearick MP<sup>2</sup>, Casares A<sup>1</sup>, **Santello M** (2003). Task-dependent modulation of multi-digit force coordination patterns. *Journal of Neurophysiology* 89: 1317-1326.

26. Rearick MP<sup>2</sup>, Stelmach GE, Leis B<sup>2</sup>, **Santello M** (2002). Coordination and control of forces during multifingered grasping in Parkinson's disease. *Experimental Neurology* 177: 428-442.
27. **Santello M** (2002). Kinematic synergies for the control of hand shape. *Archives Italiennes de Biologie* 140: 221-228.
28. Rearick MP<sup>2</sup>, **Santello M** (2002). Force synergies for multifingered grasping. Effect of predictability in object center of mass and handedness. *Experimental Brain Research* 44: 38-49.
29. **Santello M**, Flanders M, Soechting JF (2002). Patterns of hand motion during grasping and the influence of sensory guidance. *Journal of Neuroscience* 22: 1426-1435.
30. **Santello M**, McDonagh MJN, Challis JH (2001). Visual and non visual control of landing movements in humans. *Journal of Physiology (Lond)* 537: 313-327.
31. **Santello M**, Soechting JF (2000). Force synergies for multifingered grasping. *Experimental Brain Research* 133: 457-467.
32. **Santello M**, Flanders M, Soechting JF (1998). Postural synergies for tool use. *Journal of Neuroscience* 18: 10105-10115.
33. **Santello M**, McDonagh MJN (1998). The control of timing and amplitude of EMG activity in landing movements in humans. *Experimental Physiology* 83: 857-874.
34. **Santello M**, Soechting JF (1998). Gradual molding of the hand to object contours. *Journal of Neurophysiology* 79: 1307-1320.
35. **Santello M**, Soechting JF (1997). Matching object size by controlling finger span and hand shape. *Somatosensory and Motor Research* 14: 203-212.

<b>MANUSCRIPTS UNDER REVIEW</b>
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36. Lukos JR<sup>1</sup>, Lee D, Poizner H, **Santello M**. Impaired use of sensorimotor memories in anticipatory grasp control in Parkinson's disease.
37. Warren W<sup>1</sup>, **Santello M**, Helms Tillery SI. Saltatory stimuli delivered across fingertips induce the Cutaneous Rabbit Effect.
38. Johnston JA<sup>2</sup>, Bobich LR<sup>1</sup>, **Santello M**. Coordination of extrinsic and intrinsic hand muscle activity as a function of wrist posture during two-digit grasping.
39. Fu Q<sup>1</sup>, Zhang W<sup>2</sup>, **Santello M**. Anticipatory control of grasping: Learning of position-dependent force modulation in two-digit object manipulation.

<b>BOOK CHAPTERS</b>
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1. Johnston JA<sup>2</sup>, **Santello M** (In press). Multi-digit grasping and manipulation: effect of Carpal Tunnel Syndrome on force coordination. *Sensorimotor Control of Grasping: Physiology and Pathophysiology* (Eds. J. Hermsdoerfer, D. Nowak), Cambridge University Press.
2. Johnston JA<sup>2</sup>, Wings SA<sup>1</sup>, **Santello M** (2009). Neural control of hand muscles during prehension. In: *Progress in Motor Control V. A multidisciplinary perspective* (Ed. D. Sternad), Advances in Experimental Medicine and Biology 629, pp. 573-591. New York: Springer-Verlag.
3. Lukos J<sup>1</sup>, Ansuini C<sup>1</sup>, Castiello U, **Santello M**. (2008). Planning and control of object grasping: kinematics of hand pre-shaping, contact and manipulation. In: *Routledge Handbook of Biomechanics and Human Movement Science* (Eds. Y. Hong and R. Bartlett), Routledge, pp. 105-116.
4. Jerde TE, **Santello M**, Flanders M, Soechting JF (2006). Hand movements and musical performance. In: *Music, Motor Control, and the Brain* (Eds. E. Altenmüller, M. Wiesendanger, J. Kesselring), Oxford University Press, pp. 79-90.
5. Rearick MP<sup>2</sup>, **Santello M**. (2001). Effect of predictability of object center of mass and handedness on the control of multifingered grasping. *From basic motor control to functional recovery II* (Ed. N. Gantchev), pp. 177-184.

<b>GRANTS AND SCHOLARSHIPS</b>
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***Extramural Funding (as Principal Investigator)***

National Science Foundation

IIS 0904504 “*Collaborative Research. Robotic Hands: Understanding and Implementing Adaptive Grasping*”

\$236,003; 07/01/09-06/30/12

National Institutes of Health, National Institute of Child and Health Development

1R01 HD057152 “*Sensorimotor Integration Underlying Hand Control in Carpal Tunnel Syndrome*”

\$1,027,898; (09/30/08-07/31/13)

(Co-Investigators: JA Johnston, University of Calgary; A Smith, Mayo Clinic).

National Institutes of Health, National Institute of Arthritis, Musculoskeletal and Skin Diseases

2R01 AR47301-05 “*Neural Control of Grasping*”

\$1,429,432; 09/1/07-06/30/12

National Science Foundation

BCS 0819547 “*Collaborative Research: Dextrous Control of Multi-Digit Grasping*”

\$122,000; 09/01/08-08/31/11

National Science Foundation

Supplement BCS 0829488 “*Motion Capture of Upper Limb: Reaching and Grasping*”  
\$30,000; 09/01/08-08/31/09

National Science Foundation

BCS 0519152 “*Collaborative Research: Coordination of Multi-Digit Forces During Grasping*”  
\$150,000; 09/01/06-08/31/08 (1-year no-cost extension through 05/31/09)

National Institutes of Health, National Institute of Arthritis, Musculoskeletal and Skin Diseases

1R01 AR 47301 “*Neural Control of Grasping*”  
\$583,000; 04/01/02-08/31/07

National Science Foundation

“*Neural Control of Grasping*”

\$334,935; 04/01/02-03/31/06

Approved for funding (withdrawn when NIH proposal was also funded.)

### ***Extramural Funding (as Co-Investigator)***

National Institutes of Health Bioengineering Research Partnership R01-NS050256

“*Cortical Control of a Dexterous Prosthetic Hand*”

\$1,130,000; 09/15/06-09/14/11

PI: AB Schwartz; ASU subcontract PI: SI Helms Tillery

National Institutes of Health Bioengineering Research Partnership R01-EB008578

“*Neural-Enabled Prostheses with Sensorimotor Integration*”

\$3,182,124; 08/01/07- 07/31/12.

PI: R Jung; Co-Is: Abbas, Bakkaloglu, Horch, Kiaei, Phillips, Santello

Allergan

“*Yips: A Focal, Task-Specific Dystonia*”

\$193,462; 9/01/06-8/31/08

PI: CH Adler, Mayo Clinic; Co-Is: Caviness, Crews, Santello

### ***Intramural Funding***

ASU-Mayo Clinic Innovation Technology Fund

\$20,500; 01/01/09-31/12/09.

ASU-Mayo Clinic Seed Grant, ASU

\$40,000; 01/01/05-12/31/05.

Bioengineering Whitaker Seed Grant, ASU

\$20,000; 02/01/01-01/31/02.

Research Incentive Award, Office of the Vice Provost for Research, ASU  
\$8,000; 12/01/00-11/30/01.

Grant Award to Advance the Quality of Undergraduate Education  
\$13,700; 07/01/01-06/30/02.  
College of Liberal Arts and Sciences, Arizona State University.

Faculty Seminar Series Award  
Support for Seminar Speakers; 09/01/00-12/15/2000  
College of Liberal Arts and Sciences, Arizona State University.

“Sir Richard Fenwick” PhD Scholarship  
6 months; 1995  
The University of Birmingham, Birmingham, U.K.

Grant EMRA NNR/2027/4  
Equipment and travel expenses; 01/01/94-12/31/94  
Ministry of Defense, U.K.

Travel Grant  
£600; Summer 1994  
The Physiological Society, London, U.K.

Summer School Grant “Multisensory Control of Movement”, Trieste, Italy (1994), NATO

Ph.D. Scholarship  
09/01/93-04/01/95  
The University of Birmingham, Birmingham, U.K.

***Funding as Sponsor on Awards and Fellowships to Pre- and Post-doctoral Trainees***

Travel Fellowship, Society for Neural Control of Movement  
\$600, 19<sup>th</sup> Neural Control of Movement Meeting, Kona, Hawaii  
**Pre-doctoral trainee:** Jamie Lukos

Achievement Rewards for College Scientists, Phoenix Chapter (2009)  
\$7,000  
**Pre-doctoral trainee:** Jamie Lukos

Conacyt (Mexico)/ASU  
\$45,000; 08/01/05-07/31/08  
**Pre-doctoral trainee:** Cecil Lozano



National Science Foundation

IGERT “*Musculoskeletal and Neural Adaptations in Form and Function*”

\$47,500; 09/01/04-07/31/06

**Pre-doctoral trainee:** Lisa Raleigh

National Institutes of Health, National Institute of Arthritis, Musculoskeletal and Skin Diseases

Pre-doctoral Kirschstein-NRSA Fellowship (F31)

“*Modulation of Motor Unit Synchrony Strength in Grasping*”

\$54,000; 08/01/2005-07/31/2006

**Pre-doctoral trainee:** Sara A Winges

National Science Foundation

IGERT “*Musculoskeletal and Neural Adaptations in Form and Function*”

\$47,500; 09/01/02-07/31/05

**Pre-doctoral trainee:** Sara A Winges

National Institutes of Health, National Institute of Arthritis, Musculoskeletal and Skin Diseases

“*Perturbation to Force Sharing Patterns in Five-Digit Grasps*”

\$77,000; 08/01/2005-07/31/2007

**Post-doctoral trainee:** Jamie A Johnston

National Institutes of Health, Statewide Training Program in Movement Neuroscience

\$50,000; 10/15/00-07/31/02

**Post-doctoral trainee:** Matthew P Rearick

## SCHOLARLY PRESENTATIONS

### *Invited Presentations*

1. “*Learning Object Manipulation: Sensorimotor Bias, Anticipatory Control and Feedback Mechanisms*”, Max Planck Institute for Biological Cybernetics, Tübingen, Germany: July 2009.
2. “*Neuromuscular Control of the Hand*”, Italian Institute of Technology, Genova: July 2009.
3. “*Synergistic Control of Hand Muscles through Common Neural Input*”, Understanding the Human Hand Workshop, Robotics: Science and Systems 2009 Conference, Seattle, WA: June 2009.
4. “*The Effect of Vision on the Learning of Object Manipulation*”, ASU-BNI 3<sup>rd</sup> Annual Neuroscience Symposium, Barrow Neurological Institute, Phoenix, AZ: February 2009.
5. “*Biological Strategies for Object Manipulation and Applications*”. Centro Interdipartimentale di Ricerca E. Piaggio, School of Engineering, University of Pisa, Italy: December 2008.
6. “*Grasping Uncertainty: Planning and Learning Contact Points for Multi-Digit Grasping*”. Soechting Symposium, Vienna, Austria: October 2008.
7. “*Neuromuscular Control of the Hand: Basic Research and Clinical Applications*”. Centro Interdipartimentale di Ricerca E. Piaggio, School of Engineering, University of Pisa, Italy: June 2008.

8. “*Effect of Explicit vs. Implicit Knowledge of Object Properties on Anticipatory Grasp Control*”. Colloquium Series, Department of Speech and Hearing Sciences, Arizona State University, Tempe, AZ: April 2008.
9. “*Grasping Uncertainty: Effects of Procedural and Declarative Knowledge of Object Properties on manipulation*”. School of Medicine, University of Louvain, Brussels, Belgium: January 2008.
10. “*Hand Motor Control Strategies: Research Approaches to a Complex System*”. Department of Physiological Sciences, University of Catania, Italy: December 2007.
11. “*Neural Control of the Hand: ASU-Mayo Collaborations*”. Grand Rounds, The Mayo Clinic, Scottsdale, AZ: October 2007.
12. “*Grasping Uncertainty: Planning Contact Points and Forces in Multi-Digit Object Manipulation*”. Mathematics and Cognition Seminar, Department of Mathematics and Statistics, Arizona State University, Tempe, AZ: September 2007
13. “*Choice of Contact Points in Multi-Digit Object Manipulation*”. Federal University of Rio de Janeiro, Rio de Janeiro, Brazil, August 2007.
14. “*Grasping Uncertainty: Choice of Contact Points in Multi-Digit Object Manipulation*”. Barrow Neurological Institute, Phoenix, AZ, May 2007.
15. “*Control Mechanisms for Multi-Digit Grasping: From Hand Shaping to Choice of Contact Points*”. Université de la Méditerranée and CNRS, Marseille, France, April 2007.
16. “*Hand Function: Complementary Experimental Approaches to Understanding Motor Control and Implications for Functional Rehabilitation*”. Physical Disabilities Branch, National Institutes of Health, Bethesda, MD, December 2006.
17. “*Muscle-Specific Distribution of Common Neural Input to Motor Units of Hand Muscles*”. Center for Neurobiology and Behavior, Mahoney Center for Brain and Behavior, Columbia University, New York, NY, November 2006.
18. “*Central and peripheral constraints to hand function*”. Human Neuroscience Lecture, The Harrington Department of Bioengineering, Arizona State University, Tempe, AZ, November 2006.
19. “*Neural Common Input to Hand Muscles: Insights and Open Questions on the Coordination of Motor Unit Activity During Grasping*”. Third Motor Control Graduate Summer School, Pennsylvania, July 2006.
20. “*Neural Control of the Hand: From Single Motor Units to Multi-Digit Grasping*”. Mathematics and Cognition Seminar, Department of Mathematics and Statistics, Arizona State University, Tempe, AZ: January 2006.
21. “*Muscle Pair-Specific Distribution of Neural Common Input to Hand Muscles*”. Department of Neuromotor Physiology, IRCSS Fondazione Santa Lucia, Rome, Italy: December 2005.
22. “*Applications of Electro-Tactile Stimulation for Sensory Substitution*”. Centro Interdipartimentale di Ricerca E. Piaggio, University of Pisa, Italy: December 2005.
23. “*Principles of grasping*”. Summer School on Neural Networks Models of Perception, Action and Embodied Knowledge, University of Bologna, Bologna, Italy: July 2005.
24. “*Neural mechanisms for the control of grasping: synchrony of motor units across digit flexors*”. Department of Physiology, University of Arizona, Tucson, AZ: April 2005.
25. “*Neural mechanisms for the control of grasping: synchrony of motor units across digit flexors*”. Rehabilitation Institute of Chicago, Chicago, IL: March 2005.
26. “*Neural mechanisms for the control of grasping: synchrony of motor units across digit flexors*”. Teacher’s College, Columbia University, New York, NY: February 2005.

27. “Control of complex motor system: experimental evidence from hand kinematics, kinetics and EMG studies”. Department of Physiology, University of Parma, Italy: December 2004.
28. “The Hand: How to Control Many Muscles through a Few Strategies”. Department of Psychology, University of Padova, Italy: December 2004.
29. “Neural and anatomical determinants of force coordination during multidigit grasping”. 26<sup>th</sup> Annual International IEEE Engineering in Medicine and Biology Society, San Francisco, CA: September 2004.
30. “Motor unit synchrony between compartments of finger flexors and force coordination during multi-digit grasping”. 20<sup>th</sup> Congress of the International Primatological Society, Turin, Italy: August 2004.
31. “Coordination of hand muscle activity for multi-digit grasping”. Motor Control: Trends and Perspectives, Tempe, AZ: May 2004.
32. “Central and peripheral ‘constraints’ for hand control”. Barrow Neurological Institute, Phoenix, AZ: February 2004.
33. “Control of the hand: coordination of multiple variables in the kinematic, kinetic and EMG domain”. Recent Developments in Neurobiology, Society for Integrative and Comparative Biology, New Orleans, LA: January 2004.
34. “Control of the hand: biomechanical and neural factors”. Department of Physiology, Universidad Nacional Autonoma de México, México City, México: May 2003.
35. “Neural strategies for the control of multi-digit grasping”. Colloquium and Action Club, Department of Kinesiology, Pennsylvania State University, State College: March 2003.
36. “Controlling the hand: a complex journey from motor cortex to finger movement”. Chair of Panel and Presenter. Meeting of the Society for the Neural Control of Movement. Naples, FL: April 2002.
37. “Coordination Patterns of Hand Shaping During Reach to grasp”. Brainerd 2001: Reunion and rededication of the 1969 Brainerd Conference on Systems Analysis in Neurophysiology. Brainerd, MN, USA: September 2001.
38. “Effect of predictability of object center of mass and handedness on the control of multifingered grasping”. From Basic Motor Control to Functional Recovery II. Varna, Bulgaria: September 2001.
39. “The Control of Hand Shape and Grip Forces: Evidence for Kinematic and Kinetic Synergies”. 11<sup>th</sup> Annual Spring Brain Conference. Sedona, AZ, USA: March 2000.
40. “Postural Synergies for Tool Use”. Progress in Motor Control II. Structure-Function Relations in Voluntary Movements. The Pennsylvania State University, University Park, USA: July 1999.
41. “Shaping the Hand to Object Features: Interaction between Mechanical and Neural Factors for the Control of Hand Posture”. Inter-University Congress of Computation, Electronic and Electrical Engineering. Durango, Mexico: April 1998.

### ***Presentations at Professional Meetings***

- Fu Q, Zhang W, Santello M. Learning of the anticipatory mapping between digit positions and forces in two-digit object manipulation. *Neurosci. Abst.* TBA. 39<sup>th</sup> Meeting of the Society for Neuroscience, Chicago IL, USA: October 2009. Poster presentation.
- Danna-dos-Santos A, Poston B, Bobich L, Santello M. Effect of force direction on the modulation of EMG amplitudes of hand muscles during the execution of three-digit grasping and single digit force production. *Soc. Neurosci. Abst.* TBA. 39<sup>th</sup> Meeting of the Society for Neuroscience, Chicago IL, USA: October 2009. Poster presentation.

- Bobich LR, Poston B, Helms Tillery SI, Santello M. Cutaneous reflexes of hand muscles during multi-digit force production. *Soc. Neurosci. Abst.* TBA. 39<sup>th</sup> Meeting of the Society for Neuroscience, Chicago IL, USA: October 2009. Poster presentation.
- Zhang W, Gordon AM, Fu Q, Santello M. Learning transfer of mapping between digit position and force in two-digit object manipulation. *Soc. Neurosci. Abst.* TBA. 39<sup>th</sup> Meeting of the Society for Neuroscience, Chicago IL, USA: October 2009. Poster presentation.
- Lukos JR, Fu Q, Zhang W, Santello M. Effect of previous trial bias on anticipatory force control and grasp performance. *Soc. Neurosci. Abst.* TBA. 39<sup>th</sup> Meeting of the Society for Neuroscience, Chicago IL, USA: October 2009. Poster presentation.
- Poston B, Danna-dos-Santos A, Bobich LR, Santello M. The influence of fatigue on hand muscle coordination and EMG-EMG coherence during three-digit grasping. *Soc. Neurosci. Abst.* TBA. 39<sup>th</sup> Meeting of the Society for Neuroscience, Chicago IL, USA: October 2009. Poster presentation.
- Santello M, Lukos JR. Sensorimotor integration for learning object manipulation: effect of vision of grasp performance on digit placement and forces. *Progress in Motor Control VII*, Marseille, France: July 2009. Poster presentation.
- Fu Q, Zhang W, Santello M. Learning of the anticipatory mapping between digit positions and forces in two-digit object manipulation. *Robotics: Science and Systems 2009 Conference*, Seattle, WA: June 2009. Poster presentation.
- Warren JP, Santello M, Helms Tillery SI. The impact of hand posture on the cutaneous rabbit effect (CRE) induced across the fingertips with electrotactile stimulation. *Soc. Neurosci. Abst.* TBA. 39<sup>th</sup> Meeting of the Society for Neuroscience, Chicago IL, USA: October 2009. Poster presentation.
- Warren JP, Santello M, Helms Tillery SI. Electrotactile inducement of the cutaneous rabbit effect (CRE) across human fingertips. *10<sup>th</sup> Annual University of California Systemwide Bioengineering Symposium*, June 2009. Poster presentation.
- Santello M, Lukos JR. Sensorimotor integration for learning object manipulation: effect of vision of grasp performance on digit placement and forces. *19<sup>th</sup> Meeting of the Society for the Neural Control of Movement*, Kona, Hawaii: April 2009. Poster presentation.
- Lukos JR, Lee D, Poizner H, Santello M. Patients with Parkinson's Disease Fail to Appropriately Use Sensorimotor Memories During Multi-Digit Grasping. *19<sup>th</sup> Meeting of the Society for the Neural Control of Movement*, Kona, Hawaii: April 2009. Poster presentation.
- Lukos JR, Santello M. Effect of vision of grasp performance on anticipatory control of multi-digit kinematics and kinetics. *Soc. Neurosci. Abst.* 166.8. 38<sup>th</sup> Meeting of the Society for Neuroscience, Washington DC, USA: November 2008. Poster presentation.
- Rincon L, Diaz DA, Santello M, Helms Tillery SI. The effect of tactile stimulation on the estimate of hand location is different in right and left hands. *Soc. Neurosci. Abst.* 852.15. 38<sup>th</sup> Meeting of the Society for Neuroscience, Washington DC, USA: November 2008. Poster presentation.
- Johnston JA, Merritt M, Duncan S, Smith A, Ross M, Santello M. The effects of sensorimotor deficits on multi-digit grasping in patients with Carpal Tunnel Syndrome. *Canadian Society for Psychomotor Learning and Sport Psychology*, Canmore, Canada: June 2008. Poster presentation.

- Bobich LR, Johnston JA, Merritt M, Duncan S, Smith A, Santello M. Sensorimotor integration during multi-digit grasping in patients with Carpal Tunnel Syndrome. *Soc. Neurosci. Abst.* 167.15. *37<sup>th</sup> Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2007. Poster presentation.
- Lukos J, Ansuini C, Santello M. Effect of cue about object center of mass location on fingertip contact point selection for multi-digit grasping. *Soc. Neurosci. Abst.* 818.23. *37<sup>th</sup> Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2007. Poster presentation.
- Lozano C, Santello M. Effects of electrotactile stimulation on the tongue on voluntary force production. *Soc. Neurosci. Abst.* 81.16. *37<sup>th</sup> Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2007. Poster presentation.
- Johnston JA, Wings SA, Santello M. Muscle-pair specificity of periodic common neural input to hand muscles during precision grip. *Soc. Neurosci. Abst.* 408.8. *37<sup>th</sup> Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2007. Poster presentation.
- Gordon AM, Muratori L, McIsaac TL, Santello M. Impaired anticipatory control of force sharing patterns during multi-digit grasping in Parkinson disease. *Soc. Neurosci. Abst.* 796.14. *37<sup>th</sup> Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2007. Poster presentation.
- McIsaac TL, Santello M, Gordon AM. Multi-digit control of grasp with changes in object texture and constraints on task accuracy. *Soc. Neurosci. Abst.* 412.17. *37<sup>th</sup> Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2007. Poster presentation.
- Rincon L, Warren JP, Diaz DA, Bodeen G, Santello M, Helms Tillery SI. The effect of tactile and electrotactile stimulation on the estimate of hand location in dominant and non-dominant hands. *Soc. Neurosci. Abst.* 81.18. *37<sup>th</sup> Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2007. Poster presentation.
- Johnston JA, Merritt M, Duncan S, Smith A, Ross M, Santello M. Impaired sensorimotor integration for multi-digit grasping in patients with Carpal Tunnel Syndrome. *6<sup>th</sup> Meeting of the Orthopaedic Research Society*, Honolulu, Hawaii: October 2007. Oral presentation.
- Warren JP, Raleigh LM, Sweeney JD, Santello M, Helms Tillery SI. Factors Determining the Electrotactile Receptive Field of the Human Fingertip. *Meeting of the Biomedical Engineering Society*, Los Angeles, CA, USA: October 2007. Poster presentation.
- Johnston JA, Merritt M, Duncan S, Santello M. Impaired sensorimotor integration for multi-digit grasping in patients with Carpal Tunnel Syndrome. *17<sup>th</sup> Meeting of the Society for the Neural Control of Movement*, Seville, Spain: March 2007. Poster presentation.
- Ansuini C, Lukos J, Santello M. Control of fingertip contact points during grasp. *17<sup>th</sup> Meeting of the Society for the Neural Control of Movement*, Seville, Spain: March 2007. Poster presentation.
- Lozano C, Santello M. Psychophysical measures for tongue's electrotactile stimulation: dynamic ranges, intensity differentiation and estimation. *Soc. Neurosci. Abst.* 52.1. *36<sup>th</sup> Meeting of the Society for Neuroscience*, Atlanta, GA, USA: October 2006. Poster presentation.
- Raghavan P, Santello M, Krakauer JW, Gordon AM. Shaping the hand to object contours after stroke. The control of fingertip position during whole hand grasping. *Soc. Neurosci. Abst.* 271.7. *36<sup>th</sup> Meeting of the Society for Neuroscience*, Atlanta, GA, USA: October 2006. Poster presentation.
- Warren JP, Raleigh LM, Helms Tillery SI, Santello M, Sweeney JD. Effect of electrotactile stimulus parameters on tactile sensation and spatial discrimination. *Soc. Neurosci. Abst.* 52.7. *36<sup>th</sup> Meeting of the Society for Neuroscience*, Atlanta, GA, USA: October 2005. Poster presentation.

- Raleigh LM, Johnston JA, Santello, M. Relations between EMG activity of intrinsic and extrinsic hand muscles as a function of wrist posture during two-digit grasping. *Soc. Neurosci. Abst.* 147.2. 36<sup>th</sup> Meeting of the Society for Neuroscience, Atlanta, GA, USA: October 2006. Poster presentation.
- Johnston JA, Santello M. Corrective responses to perturbations to a three-digit grasp. *Soc. Neurosci. Abst.* 147.3. 36<sup>th</sup> Meeting of the Society for Neuroscience, Atlanta, GA, USA: October 2006. Poster presentation.
- Lukos J, Ansuini C, Santello M. Effect of object center of mass location and its predictability on the control of fingertip position during whole hand grasping. *Soc. Neurosci. Abst.* 147.4. 36<sup>th</sup> Meeting of the Society for Neuroscience, Atlanta, GA, USA: October 2006. Poster presentation.
- Johnston JA, Santello M. Corrective responses to perturbations of force sharing patterns. 16<sup>th</sup> Meeting of the Society for the Neural Control of Movement, Key Biscaine, FL, USA: April-May 2006. Poster presentation.
- Santello M, Formicone G, Johnston JA, Hamm TH. Assessment of across-muscle coherence using multi- vs. single-unit signals. *Soc. Neurosci. Abst.* 399.3. 35<sup>th</sup> Meeting of the Society for Neuroscience, Washington, DC, USA: November 2005. Poster presentation.
- Johnston JA, Wings SA, Santello M. Periodic common input to extrinsic flexors in 2- and 5-digit grasping. *Soc. Neurosci. Abst.* 399.2. 35<sup>th</sup> Meeting of the Society for Neuroscience, Washington, DC, USA: November 2005. Poster presentation.
- Raleigh LM, Warren JP, Helms Tillery SI, Santello M, Sweeney JD. Comparison of discriminability in electrotactile and mechanical stimulation of the fingertip. *Soc. Neurosci. Abst.* 624.10. 35<sup>th</sup> Meeting of the Society for Neuroscience, Washington, DC, USA: November 2005. Poster presentation.
- Wings SA, Kornatz KW, Santello M. Common input strength as a function of synergistic action of hand muscles during grasping. *Soc. Neurosci. Abst.* 399.1. 35<sup>th</sup> Meeting of the Society for Neuroscience, Washington, DC, USA: November 2005. Poster presentation.
- Ansuini C, Santello M, Massaccesi S, Castiello U. Intended use of object affects the modulation of hand shaping. *Soc. Neurosci. Abst.* 980.15. 35<sup>th</sup> Meeting of the Society for Neuroscience, Washington, DC, USA: November 2005. Poster presentation.
- Kiggins J, Ingalls T, James J, Santello M, Helms Tillery SI. Bow-arm kinematics in trained and untrained violing playing. *The Neurosciences and Music II Conference*, Leipzig, Germany: May 2005. Poster presentation.
- Johnston JA, Wings SA, Santello M. Coherence of motor unit activity from hand muscles during multi-digit grasping. *Soc. Neurosci. Abst.* 188.13. 34<sup>th</sup> Meeting of the Society for Neuroscience, San Diego, CA, USA: November 2004. Poster presentation.
- Wings SA, Johnston JA, Santello, M. Effect of grip type on the strength of common input to extrinsic finger flexors. *Soc. Neurosci. Abst.* 188.15. 34<sup>th</sup> Meeting of the Society for Neuroscience, San Diego, CA, USA: November 2004. Poster presentation.
- Johnston JA, Wings SA, Santello M. Oscillatory modulation of motor unit activity of extrinsic hand muscles during multi-digit grasping. 13<sup>th</sup> Meeting of the Society for Neural Control of Movement, Sitges, Spain: April 2004. Poster presentation.
- Gordon AM, Muratori L, Santello M. Effect of predictability of object center of mass on the coordination of multiple digit forces in Parkinson's Disease. *Soc. Neurosci. Abst.* 71.14. 33<sup>rd</sup> Meeting of the Society for Neuroscience, New Orleans, LA, USA: November 2003. Poster presentation.
- Wings SA, Maurer K, Santello M. Motor unit synchrony and force coordination during 5-digit grasping. *Soc. Neurosci. Abst.* 392.11. 33<sup>rd</sup> Meeting of the Society for Neuroscience, New Orleans, LA, USA: November 2003. Poster presentation.

- Santello M. Synergies for the control of multi-digit grasping: experimental evidence from kinematic, kinetic and EMG domains. *Bioengineering Faculty Research Presentations Meeting*, Tempe, ASU: October 2003. Oral presentation.
- Csavina KR, He J, Santello M. Postural responses to slow perturbations: a preliminary study of young vs. elderly subjects. *Meeting of the IEEE Engineering in Medicine and Biology Society*, Cancun, Mexico: September 2003. Poster presentation.
- Winges SA, Maurer K, Santello M. Motor unit synchronization during 5-digit grasping. *12<sup>th</sup> Meeting of the Society for the Neural Control of Movement*, Santa Barbara, CA, USA: April 2003. Poster presentation.
- Rearick MP, Casares A, Santello M. Task-dependent modulation of multi-digit force coordination patterns. *Soc. Neurosci. Abst.* 665.1. *32<sup>nd</sup> Meeting of the Society for Neuroscience*, Naples, FL, USA: November 2002. Poster presentation.
- Fuglevand AJ, Santello M. Role of motor unit synchronization in the coordination of grip forces. *Soc. Neurosci. Abst.* 768.16. *32<sup>nd</sup> Meeting of the Society for Neuroscience*, Naples, FL, USA: November 2002. Poster presentation.
- Rearick MP, Stelmach GE, Leis B, Santello M. 5-digit grasping in Parkinson's disease: Disruption of force coupling at tremor frequency. *11<sup>th</sup> Meeting of the Society for the Neural Control of Movement*, Naples, FL, USA: April 2002. Poster presentation.
- Rearick MP, Santello M. Force synergies for multifingered grasping: effect of handedness and predictability of object center of mass. *Soc. Neurosci. Abst.* 27: 792. *31<sup>st</sup> Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2001. Poster presentation.
- Winges SA, Weber DJ, Santello M. The role of vision in the gradual molding of the hand to object contours. *Soc. Neurosci. Abst.* 27: 2496. *31<sup>st</sup> Meeting of the Society for Neuroscience*, San Diego, CA, USA: November 2001. Poster presentation.
- Santello M, Soechting JF. Hand shaping during reach to grasp remembered, virtual and real objects. *10<sup>th</sup> Meeting of the Society for the Neural Control of Movement*, Seville, Spain: March 2001. Poster presentation.
- Santello M, McDonagh MJN, Challis JH. Control of landing movement with and without vision. *10<sup>th</sup> Meeting of the Society for the Neural Control of Movement*, Seville, Spain: March 2001. Poster presentation.
- Santello M, Soechting JF. The coordination of forces in multifingered grasping. *Arizona Chapter Society for Neuroscience Meeting*, Flagstaff, AZ, USA: November 1999. Poster presentation.
- Santello M, Soechting JF. The coordination of forces in multifingered grasping. *Soc. Neurosci. Abst.* 25: 114. *29<sup>th</sup> Meeting of the Society for Neuroscience*, Miami, FL, USA: October 1999. Poster presentation.
- Santello M. The coordination of forces in multifingered grasping. *Flinn Foundation Meeting*. Tucson, AZ, USA: September 1999. Poster presentation.
- Santello M, Flanders M, Soechting JF. Taxonomies of hand postures for grasping objects? *Soc. Neurosci. Abst.* 24: 2110. *28<sup>th</sup> Meeting of the Society for Neuroscience*, Los Angeles, USA: November 1998. Poster presentation.
- Santello M, Soechting JF. Postural synergies for grasping. *Human Frontier Group Meeting*, ATR Human Information Processing Research Laboratories, Kyoto, Japan: October 1998. Oral presentation.
- Santello M, Soechting JF. The control of hand posture as a function of object shape. *27<sup>th</sup> Meeting of the Society for Neuroscience*, New Orleans, USA: November 1997. Poster presentation.

- Santello M, Soechting JF. Matching object size by controlling finger span and hand shape. *Soc. Neurosci. Abst.* 22: 428. 26<sup>th</sup> Meeting of the Society for Neuroscience, Washington DC, USA: November 1996. Poster presentation.
- Santello M, Soechting JF. The control of hand posture as a function of object shape. *Conference on Vision for Reach and Grasp*, Minneapolis, USA: October 1996. Poster presentation.
- Santello M, McDonagh MJN, Harakis M. Control of human leg muscles prior to landing from falls. *J. Physiol.* 473: 212P. *Physiological Society Meeting*, Southampton, UK: September 1993. Oral presentation.
- Santello M, Miller J, McDonagh MJN. Activation pattern of human leg muscles during landing from a jump onto low and high compliance surfaces. *J. Physiol.* 459: 504P. *Physiological Society Meeting*, Cambridge, UK: September 1992. Poster presentation.
- Cook CS, McDonagh MJN, Santello M, Nicholls S. Mechanical responses to controlled stretch in human muscle-tendon complex. *Animal and related cell abst. Meeting of the Society for Experimental Biology*, Lancaster, UK: April 1992. Poster presentation.

## TEACHING

### *Internships Mentoring: High School Students*

Narla A, Kulkarni N.

### *Internships Mentoring: Undergraduate Students*

Baerstch B, Bessert C, Chu A, Franquemont L, Isaac A, Mimnaugh P, Casares A, Chesteen G, Grace M, Gretarsdottir H, Hayes A, Hernandez E, Kaine E, Lambert T, Lim S, McLemor R, Mollenhauer L, Na Y, Pham J, Platero L, Redinger D, Reinert A.

### *Undergraduate Courses*

Motor and Developmental Learning (KIN 345)  
Reflex and Voluntary Control of Movement (KIN 494)  
Adaptations in Biological Form and Function (KIN 494)  
Introduction to Research Methods in Physical Activity and Health (KIN 494)

### *Graduate Courses*

The Neurophysiological Basis of Motor Control (KIN 598)  
Neurophysiology and NeuroBioengineering (KIN 598)  
Motor Neurophysiology, NSF-IGERT Program (KIN 598)

## POSTDOCTORAL MENTORING, GRADUATE THESIS AND DISSERTATION COMMITTEES

### *Mentored postdoctoral fellows*

Rearick MP (2000-2002); currently tenure-track Assistant Professor, Roanoke College  
Johnston JA (2003-2007); currently tenure-track Assistant Professor, University of Calgary  
McIsaac T (2006-2008); currently tenure-track Assistant Professor, Columbia University  
Brach Poston (2008-2009); currently Postdoctoral Associate, National Institutes of Health  
Alessander Dos Santos (2008 - )



Wei Zhang (2008 - )  
Mark Jesunathadas (2009 - )

*Committee Chair - Master students*

Winges SA (graduated in Spring 2002)

Thesis title: “*The role of vision on hand preshaping during reach to grasp.*”

Hegde G (graduated in Summer 2008)

Thesis title: “*Partitioning of Movement among Upper Limb Segments in Reaching to and Rotating an Object: Effect of Direction of and Resistance to the Rotation*”

*Committee Chair - PhD students*

Winges SA (graduated in Fall 2005; currently Postdoctoral Associate, University of Minnesota)

Thesis title: “*Across-muscle common neural input during object hold*”

Bobich LR (expected graduation: Fall 2009)

Lozano C (expected graduation: Spring 2010)

Lukos J (expected graduation: Spring 2010)

Fu Q (start date: Fall 2008)

*Master and PhD Committee Member*

Afifi M, Alberts J, Bhowmik-Stoker M, Cai X, Chattopadhyay R, Csavina K, Fan J, Flink T, Goble J, Hayes T, Jacofsky M, Ketcham C, Kim Y-K, Meller D, Mulligan S, Paluck M, Spalding C (University of Pittsburgh), Stock A, Szymik B, Tufail Y, Qiao M, Wang J, Wang W.

<b>COMMITTEE SERVICE - DEPARTMENT</b>
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Chair of Systems Neuroscience Panel, ASU-BNI Neuroscience Symposium (November 2006, February 2008)

Member of Self-Study Committee (Spring 2005)

Director of Master’s Program in Kinesiology (2002 - 2004)

Director of PhD Program in Kinesiology (2004 - )

Chair of Kinesiology Search Committee for Motor Control Faculty (2003-2006)

Member of Bioengineering Search Committee for Biomechanics Faculty (2004)

Member of Bioengineering Search Committee for Motor Learning Faculty (2004)

Member of Kinesiology Search Committee for Department Chair (2003; 2004)

Member of Graduate Program Sub-Committee (2002 - )

Member of Exercise Science Search Committee for Department Chair (2001)

Junior faculty mentor (2004 - )

Coordinator of revisions of Motor Control/Motor Development Masters Packet available online through the Department Web Page (2001)

Member of Exercise Science Search Committee for Exercise Physiologist (2000)

Member of Committee in charge of organizing laboratory tours by Dr. Bruce McEwen (2000)

Host to CASE Media Fellowship visit (2000) and Discovery Tour of ESRI, ASU (1999)

#### **COMMITTEE SERVICE - COLLEGE/UNIVERSITY**

Organizer of 1<sup>st</sup> Annual Meeting of the Statewide Training Program in Movement Neuroscience, ASU, Tempe, AZ, USA: March 2003

Program Committee Member, 11<sup>th</sup> International Graphonomics Society Conference, November 2003, Scottsdale, Arizona, USA

Chair of the NSF IGERT Seminar Committee (2001-2005)

Member of NSF IGERT Steering Committee and Faculty Advisory Committee (2001-2003)

Member of Bioengineering Search Committee for Biomechanics/Clinical Rehabilitation Faculty (2002)

Poster Judge at “Life and Earth Science Graduate Research Symposium”, ASU (2002)

Graduate College Representative, PhD Defense, Doug Weber, Department of Bioengineering (2001)

Co-organizer of Brain Day Symposium, ASU, Tempe, AZ, USA: March 2000

#### **PROFESSIONAL AFFILIATIONS**

Society for Neuroscience (1996-), Society for Neural Control of Movement (1996-), International Graphonomics Society (2003)

#### **PROFESSIONAL ASSIGNMENTS**

*Ad Hoc Reviewer, Federal Grants:*

Pre-review, NIH ARRA grant (PI: W Murray, Northwestern University)

NIH Scientific Review Group Musculoskeletal Rehabilitation Sciences (2008, 2009)

NIH Bioengineering Sciences and Technologies Internal Review Group (2008)

NSF Panel, Perception, Action and Cognition (2007)

NIH Scientific Review Group ZAR1 EHB-H (2007)

NIH Panel MOSS G53, Musculoskeletal Tissue Engineering Study Section (2006)

NIH Biobehavioral and Behavioral Processes Internal Review Group (2005, 2004)

*Ad Hoc Reviewer, Journals:*

Acta Psychologica, Advanced Robotics, Annals of Biomedical Engineering, Biological Cybernetics, Brain, Brain Research, Cerebral Cortex, Current Biology, Experimental Brain Research, Engineering in Medicine and Biology, Human Movement Sciences, IEEE Engineering in Medicine and Biology Society, IEEE Biomedical Robotics and Biomechatronics, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Neural Systems & Rehabilitation Engineering, IEEE Transactions on Robotics, The International Conference on Rehabilitation Robotics Conference 2005, Journal of Applied Biomechanics, Journal of Applied Physiology, Journal of Motor Behavior, Journal of Neurophysiology, Journal of Neuroscience, Motor Control, Movement Disorders, Nature Neuroscience Reviews, Neuroscience Letters, Pediatric Research, Psychonomic Bulletin, Robotica, SIGGRAPH 2005, Somatosensory and Motor Research.

Poster abstract reviewer, Progress in Motor Control VII (July 2009), Marseille, France

Invited faculty at “Third Motor Control Graduate Summer School” (July 2007), Ligonier, PA

Textbook reviewer

“*Motor Learning - Concepts and Applications*” (R. A. Magill, McGraw-Hill, 2001)

“*Lifelong Motor Development*” (Gabbard, C. P., Allyn and Bacon, 2000)

External reviewer for Tenure and Promotion (2 faculties)

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