

PAOLA CONTESSA, Ph.D.

Curriculum Vitae

Updated: October 2013

Name: Paola Contessa
Address: Boston University
NeuroMuscular Research Center
19 Deerfield Street, 4th floor
Boston, MA 02215
Phone: 617-358-0715
Email: contessa@bu.edu

Education

2009 Ph.D. University of Padova, Italy
2006 M.Sc. University of Padova, Italy
2004 B. Sc. University of Padova, Italy

Academic Appointments

2013-Present Research Assistant Professor, Department of Physical Therapy & Athletic Training, Sargent College, Boston University, Boston, MA
2012-Present Research Scientist, NeuroMuscular Research Center, Boston University, Boston, MA
2012-Present Supervisor of the Motor Unit Laboratory, NeuroMuscular Research Center, Boston University, Boston, MA
2010-2012 Post-doctoral Research Associate, NeuroMuscular Research Center, Boston University, Boston, MA
2008-2009 Visiting Research Assistant, NeuroMuscular Research Center, Boston University, Boston, MA

Awards and Honors

2008-2009 Research scholarship “Ing. A Gini”

Manuscript Reviewer

Archives of Physical Medicine and Rehabilitation
Journal of Biomechanics
Muscle & Nerve
Proceeding B of the Royal Society - Biological Sciences

Invited Talks

2013, Jul. 23 “A model of motoneuron behavior and muscle force generation for sustained isometric contractions”. *The International Union of Physiological Sciences*, Birmingham, United Kingdom.

Tutorials/Workshop

2012, Jul. 18 “Novel sEMG decomposition system for the study of motor units and muscle activation”. Lindley S, Contessa P, Suresh N. *International Society of Electrophysiology and Kinesiology*, Brisbane, Australia.
2012, Jun. 27 “Innovative Techniques in EMG Analysis”. Lee S, Contessa P. *Gait and Clinical Movement Analysis Society*, Grand Rapids, USA.

- 2011, Jun. 23 “Best practices for recording the sEMG signal”. De Luca CJ, Richards J, Contessa P. *International Society of Biomechanics in Sport*, Porto, Portugal.
- 2010, Jun. 23 “Decomposition of sEMG signals: a new tool for assessing muscle performance”. De Luca CJ, Contessa P. *European College of Sport Science*, Antalya, Turkey.
- 2010, Jun. 26 “Neural regulation of force: from technology to physiology to a model”. De Luca CJ, Contessa P. *European College of Sport Science*, Antalya, Turkey.

Other

Students Supervised

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BIBLIOGRAPHY

Paola Contessa

Original Reports

1. Contessa P, Adam A, and De Luca CJ. Motor unit control and force fluctuation during fatigue. *Journal of Applied Physiology*, 107: 235-243, 2009. PMID: 19390005.
2. Sawacha Z, Spolaor F, Guarneri G, Contessa P, Carraro E, Venturin A, Avogaro A, and Cobelli C. Abnormal muscle activation during gait in diabetes patients with and without neuropathy. *Gait Posture*, 35: 101-105, 2011. PMID: 22098824.
3. De Luca CJ and Contessa P. Hierarchical control of motor units in voluntary contraction. *Journal of Neurophysiology*, 107(1): 178-195, 2012. PMID: 21975447.
4. Contessa P and De Luca CJ. Neural control of muscle force: Indications from a simulation model. *Journal of Neurophysiology*, 109(6):1548-1570, 2013. PMID: 23236008.
5. Sawacha Z, Carraro E, Contessa P, Guiotto A, Masiero S, Cobelli C. Relationship between clinical and instrumental balance assessments in chronic post-stroke hemiparesis subjects. *Journal of NeuroEngineering and Rehabilitation*, 10: 9, 2013.

Peer-Reviewed Conference Papers

1. De Luca CJ, Contessa P and Nawab SH. Control of motor units during voluntary force-production: implications for exercise. *Vilas-Boas, Machado, Kim, Veloso (eds.) Biomechanics in Sports, Portuguese J Sport Sciences 11 (Suppl. 2)*, 2011.
2. Contessa P, Nawab SH, and De Luca CJ. A model of motoneuron behavior and muscle-force generation for sustained isometric contractions. *Conf Proc IEEE Eng Med Biol Soc*, 4072:4075, 2011. PMID: 22255235.

Proceedings

1. Sawacha Z, Venturin A, Guarneri G, Contessa P, Scutari A, Zanardo C, Cristoferi G, Avogaro A, Cobelli C. The role of surface emg in diabetic foot treatment. *8th Annual Meeting of the Italian Society of Movement Analysis in Clinic (SIAMOC)*, Cuneo, Italy, 24–27 October 2007.
2. Contessa P, Carraro E, Postal V, Masiero S, Sawacha Z, Donà G, Cobelli C. Gait Analysis in patients with post-stroke hemiparesis: a pilot study. *8th Annual Meeting of Italian Society of Movement Analysis in Clinic (SIAMOC)*, Cuneo, Italy, 24–27 October 2007.
3. Sawacha Z, Guarneri G, Contessa P, Cristoferi G, Avogaro A, Cobelli C. Foot deformities characterization through integrated kinematic, kinetics and plantar pressure analysis in neuropathic patients. *13th Annual Meeting of the Gait and Clinical Movement Analysis Society (GCMAS)*, Richmond, Virginia, USA, 2-5 April 2008.
4. Sawacha Z, Venturin A, Guarneri G, Contessa P, Scutari A, Zanardo C, Cristoferi G, Avogaro A, Cobelli C. Surface EMG: a clinical tool in investigating diabetic neuropathy. *13th Annual Meeting of the the Gait and Clinical Movement Analysis Society (GCMAS)*, Richmond, Virginia, USA, 2-5 April 2008.
5. Sawacha Z, Venturin A, Guarneri G, Contessa P, Zanardo C, Ursino S, Centenaro S, Avogaro A, Cobelli C. Correlation between surface EMG and kinematics-kinetics-plantar pressure analysis of diabetic neuropathic foot. *1st International Foot and Ankle Biomechanics Congress (i-FAB)*, Bologna, Italy, 4-6 September 2008.

6. Contessa P, Carraro E, Postal V, Masiero S, Donà G, Cobelli C. Hemiparetic post stroke chronic patient: a case study. *17th Annual Meeting of the European Society of Movement Analysis for Adults and Children (ESMAC)*, Antalya, Turkey, 8-13 September 2008.
7. Sawacha Z, Guarneri G, Venturin A, Contessa P, Ursino S, Zanardo C, Spolar F, Avogaro A, Cobelli C. Surface EMG is a predictor for diabetics neuropathy? *9th Annual Meeting of the Italian Society of Movement Analysis in Clinic (SIAMOC)*, Potenza Picena, Italy, 2-4 October 2008.
8. Sawacha Z, Venturin A, Guarneri G, Contessa P, Spolar F, Ursino S, Avogaro A, Cobelli C. Assessment of diabetic neuromuscular disorder through surface EMG. *14th Annual Meeting of the Gait and Clinical movement Analysis Society (GCMAS)*, Denver, Colorado, USA, 10-13 March 2009.
9. De Luca CJ, Contessa P, Adam A. Control properties of motor units during fatiguing contractions. *International Workshop and Conference on Human Reflexes "Wiring and Firing of Motoneurons"*, Izmir, Turkey, 11-15 May 2009.
10. Sawacha Z, Guiotto A, Carraro E, Guarneri G, Contessa P, Masiero S, Avogaro A, Cobelli C. Automatic detection of postural sway characteristics in diabetics, post-stroke and ankylosing spondylitis based on cluster analysis. *19th Conference of the International Society of Posture and Gait Research (ISPGR)*, Bologna, Italy, 21-25 June 2009.
11. De Luca CJ, Contessa P. A model for muscle force with physiological basis. *22nd Congress of the International Society of Biomechanics (ISB)*, Cape Town, South Africa, 5-9 July 2009.
12. Contessa P, Adam A, De Luca CJ. Motor unit control and force fluctuation during fatigue. *39th Annual Meeting of the Society for Neuroscience (SfN)*, Chicago, USA, 17-21 October 2009.
13. Sawacha Z, Carraro E, Contessa P, Battistella S, Guiotto A, Masiero S, Cobelli C. Correlation between clinical and laboratory measures in chronic stroke subjects. *Combined GCMAS and ESMAC (JEMG) Meeting*, Miami, USA, 12-15 May 2010.
14. Sawacha Z, Guarneri G, Guitto A, Spolaor F, Munari A, Contessa P, Venturin A, Avogaro A, Cobelli C. Automatic detection of subjects at risk for diabetic foot through gait analysis. *Combined GCMAS and ESMAC (JEMG) Meeting*, Miami, USA, 12-15 May 2010.
15. De Luca CJ, Contessa P. Neural regulation of force: from technology to physiology to a model. *15th Annual Congress of the European College of Sport Science*, Antalya, Turkey, 23-26 June 2010.
16. Contessa P, De Luca CJ. A model for the influence of force twitch on motor unit behavior. *XIX Congress of the International Society of Electrophysiology and Kinesiology*, Brisbane, Australia, 19-21 Jul 2012.
17. Contessa P, Hostage EC, De Luca CJ. The control of motor units does not maximize force production. *41st Annual Meeting of the Society for Neuroscience*, New Orleans, USA, 13-17 Oct 2012.