


PERSONAL INFORMATION

Cristiano De Marchis



 Via Vito Volterra 62, 00146 Rome (Italy)

 +39 06 57337057

 cristiano.demarchis@uniroma3.it

 <http://biolab.uniroma3.it/demarchis.php>

Sex Male | Date of birth 02 November 1984 | Nationality Italian

WORK EXPERIENCE

01 February 2013–Present

Post-Doctoral Research Fellow in Bioengineering

Department of Engineering - Università degli Studi Roma TRE, Rome (Italy)

EDUCATION AND TRAINING

01 January 2010–11 June 2013

PhD

Università degli Studi Roma TRE, Rome (Italy)

PhD Program in Bioengineering. Thesis Title: "Neuromechanics of human movement: processing techniques and computational models for an integrated view of motor behavior"

01 July 2011–31 July 2011

Visiting Student

Instituto de Biomecanica de Valencia IBV, Valencia (Spain)

Biomechanical Modeling of the Upper Limb

01 January 2007–28 May 2009

MSc

Università degli Studi Roma TRE, Rome (Italy)

Thesis Title: "sEMG signal processing techniques for the detection and characterization of muscular tremor". Grade: 110/110 cum Laude

01 October 2003–21 December 2006

BSc

Univeristà degli Studi Roma TRE, Rome (Italy)

Thesis Title: "Project of Slow Light devices in two-dimensional photonic crystal". Grade 110/110

September 1998–June 2003

Scientific High School Degree

Liceo Scientifico Statale J.F. Kennedy, Rome (Italy)

Grade: 100/100

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
Spanish	B2	B2	B2	B2	B1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2: Proficient user
[Common European Framework of Reference for Languages](#)

ADDITIONAL INFORMATION

Projects 2008-2011: EU-FP7 Program FP7-ICT-2007-2 Project #224051: "TREMOR — An ambulatory BCI-driven tremor suppression system based on functional electrical stimulation"

Research Interests Muscle Synergies, Modularity of the motor system, Motor Coordination, Human Movement, Motor Control, Electromyography, Biomechanics, Neuromechanics, Musculoskeletal Modeling, Signal Processing, Neuro-rehabilitation, Tremor, Stroke.

Publications **International Journal Articles:**

C. De Marchis, M. Schmid, S. Conforto. An optimized method for tremor detection and temporal tracking through repeated second order moment calculations on the surface EMG signal. *Med Eng Phys* 34(9): 1268-1277. (2012)

C. De Marchis, M. Schmid, D. Bibbo, A.M. Castronovo, T. D'Alessio, S. Conforto. Feedback of mechanical effectiveness induces adaptations in motor modules during cycling. *Frontiers in Computational Neuroscience* 7:35. (2013)

C. De Marchis, M. Schmid, D. Bibbo, I. Bernabucci, S. Conforto. Inter-individual variability of forces and modular muscle coordination in cycling: a study on untrained subjects. *Hum Mov Sci* 32(6): 1480-1494. (2013)

Abstracts appeared in International Journals:

S. Conforto, **C. De Marchis**, G. Severini, T. D'Alessio. Tremor detection and tracking through sEMG analysis. *Gait & Posture*(30):S56-S57.(2009)

Peer Reviewed International Conference papers:

C. De Marchis, F. Patané, M. Petrarca, S. Carniel, M. Schmid, S. Conforto, E. Castelli, P. Cappa, T. D'Alessio. EMG and kinematics assessment of postural responses during balance perturbation on a 3D robotic platform: preliminary results in children with hemiplegia. *Proceedings of MEDICON 2013*. (2013)

S. Conforto, A.M. Castronovo, **C. De Marchis**, M. Schmid, M. Bertollo, C. Robazza, S. Comani, T. D'Alessio. The fatigue vector: a new bi-dimensional parameter for muscular fatigue analysis. *Proceedings of MEDICON 2013* (2013)

S. Comani, L. Bortoli, S. Di Fronso, E. Fiho, **C. De Marchis**, M. Schmid, S. Conforto, C. Robazza, M. Bertollo. ERD/ERS patterns of shooting performance within the multi-action plan model. *Proceedings*

of MEDICON 2013 (2013)

C. De Marchis, A.M. Castronovo, D. Bibbo, M. Schmid, S. Conforto. Muscle synergies are consistent when pedaling under different biomechanical demands. Conf Proc IEEE Med Eng Biol Soc 2012:3308-3311.(2012)

A.M. Castronovo, **C. De Marchis**, D. Bibbo, S. Conforto, T. D'Alessio. Neuromuscular adaptations during submaximal prolonged cycling. Conf Proc IEEE Med Eng Biol Soc 2012:3612-3615.(2012)

C. De Marchis, S. Conforto, G. Severini, M. Schmid, T. D'Alessio. Detection of tremor bursts from the sEMG signal: an optimization procedure for different detection methods. Conf Proc IEEE Med Eng Biol Soc 2011:7508-7511.(2011)

G. Severini, S. Conforto, **C. De Marchis**, M. Schmid, T. D'Alessio. A SNR-independent formulation of a double threshold algorithm for the estimation of muscle activation intervals. Conf Proc IEEE Med Eng Biol Soc 2011:7500-7503.(2011)

International Conference Abstracts:

C. De Marchis, S. Conforto, G. Severini, M. Schmid, T. D'Alessio. Detecting and characterizing tremor from the surface EMG signal. World congress of Medical Physics and Biomedical Engineering. Beijing (2012)

A.M. Castronovo, **C. De Marchis**, G. Severini, D. Bibbo, T. D'Alessio. Electromyographic features for the characterization of task-failure during submaximal cycling. World congress of Medical Physics and Biomedical Engineering. Beijing (2012)

C. De Marchis, I. Bernabucci, G. Severini, S. Conforto, M. Schmid, T. D'Alessio. Wrist tremor reduction through a novel neural model. Proceedings of the XVIII ISEK congress (2010).

National Conference Abstracts:

C. De Marchis, A.M. Castronovo, D. Bibbo, S. Conforto. Stability of muscle synergies across different pedaling strategies. Proceedings of the III GNB Congress. Rome.(2012).

A.M. Castronovo, **C. De Marchis**, D. Bibbo, T. D'Alessio. Evaluation of neuromuscular efficiency at task-failure during submaximal cycling. Proceedings of the III GNB Congress. Rome.(2012).

G. Severini, S. Conforto, M. Schmid, **C. De Marchis**, T. D'Alessio. A real-time EEG-EMG multimodal approach for the detection of voluntary activity in patients affected by tremor impairments. Proceedings of the II GNB Congress. Turin.(2010).

C. De Marchis, S. Conforto, I. Bernabucci, M. Schmid, T. D'Alessio. Abiologically inspired neural model for the active control of tremor movements. Proceedings of the II GNB Congress. Turin.(2010).

M. Svaluto Moreolo, **C. De Marchis**, G. Cincotti. Dispositivi slow light in cristallo fotonico 2D. 10th FOTONICA Congress, Mantova,(2007).