



Personal information

First name(s) / Surname(s) **ANNA MARGHERITA CASTRONOVO (PhD., MSc. E.E.)**

Address Department of Neurorehabilitation Engineering,
Bernstein Focus Neurotechnology Göttingen (BFNT)
Bernstein Center for Computational Neuroscience (BCCN)
Universitätmedizin Göttingen (UMG)
Georg-August Universität
Von-Siebold-Str. 6, D-37075 Göttingen, (Gö), Germany

Mobile (es) +49 157 31409562

E-mail margherita.castronovo@bccn.uni-goettingen.de
acastronovo@uniroma3.it

Nationality Italian

Date of birth September 19th, 1984

Gender Female

Research Interests **Motor Unit Physiology Muscle Fatigue, Motor learning and control, , Neuromechanics, EMG signal Processing, Biomechanics and Rehabilitation, Sport Performance**

Work experience

Dates **February 2014 – January 2015**

Occupation or position held Post-doctoral Research fellow

Name and address of employer Department of Neurorehabilitation Engineering, Göttingen, Germany
Bernstein Center for Computational Neuroscience (BCCN)
Bernstein Focus Neurotechnology Göttingen
University Medical Center Göttingen (UMG)
Georg-August University
Von-Siebold-Str. 6, D-37075 Göttingen, Germany
Supervisor: Prof. Dario Farina

Dates **November 2012 – September 2013**

Occupation or position held Visiting researcher

Field Motor control and limits in the performance of a motor task. Particular focus on muscle fatigue assessment from sEMG signals. Understanding of motor unit behavior during fatigue and limitations of traditionally used indicators. sEMG decomposition and motor unit analysis.

Name and address of employer Department of Neurorehabilitation Engineering, Göttingen, Germany
Bernstein Center for Computational Neuroscience (BCCN)
Bernstein Focus Neurotechnology Göttingen
University Medical Center Göttingen (UMG)
Georg-August University
Von-Siebold-Str. 6, D-37075 Göttingen, Germany
Supervisor: Prof. Dario Farina

Dates **October 2009 – February 2010**

Occupation or position held Visiting Scholar

Name and Address of employer Instituto de Biomecánica de Valencia
Universitat Politècnica de Valencia
Camino de Vera s/n, ES-46022, Valencia, Spain
Supervisor: Dr. Juanma Belda-Lois

Education and training

Dates **January 2011 – December 2013**

Title of qualification awarded PhD in Biomedical Engineering

Name and type of organisation providing education and training University of Bologna

Level in national or international classification Doctor of Philosophy (PhD)

Thesis: "Techniques and Methods for a multi-level analysis of muscular fatigue"

Supervisors: Prof. Tommaso D'Alessio, Prof. Dario Farina

Dates **January 2008 – February 2010**

Title of qualification awarded Master Scientific in Electronic Engineering curriculum Biomedical Engineering
Summa cum laude

Name and type of organisation providing education and training University of Roma TRE

Level in national or international classification M.Sc. EE

Thesis: "Development of a biomechanical model for the functional electrical stimulation (FES) of the upper limb"

Supervisor: Prof. Dr. Silvia Conforto

Dates **October 2003 – December 2007**

Title and qualification awarded Bachelor Degree in Electronic Engineering curriculum Biomedical Engineering

Name and type of organization providing education and training University of Roma TRE

Level in national or international classification B.Sc. E.E

Thesis: *“Experimental evaluation of the application of optic stimuli in a BCI contest for reinforcement learning”*

Supervisor: Prof. Tommaso D’Alessio

Mother tongue(s) **Italian**

Other language(s) **English (EN), Spanish (SP), German (G)**

Self-assessment <i>European level (*)</i>	Understanding		Speaking		Writing
	Listening	Reading	Spoken interaction	Spoken production	
Language EN	C1	C2	C1	C1	C1
Language SP	A2	A1	A1	A1	A1
Language G	A1	A1	A1	A1	A1

(*) [Common European Framework of Reference for Languages](#)

Participation to Conferences

- 43rd Annual Meeting of the Society for Neuroscience**,
09-13 November 2013, San Diego, USA
- 34th Annual International Conference of the IEEE EMBS**:
August 28th – September 1st 2012, San Diego, USA
- 3rd Conference of the Italian National Bioengineering Group**,
26-29th June 2012, Rome, Italy
- 33rd Annual International Conference of the IEEE EMBS**
August 30th – September 1st, 2011, Boston, USA
- BCI 3rd Workshop**
5-6th December 2007, Fondazione Santa Lucia IRCCS, Rome, Italy
- Neuromath Workshop** “Advanced Methods for the Estimation of Human Brain Activity and Connectivity”
4-5th December 2007, Fondazione Santa Lucia IRCCS, Rome, Italy

Lectures and Seminars **October 2013**

Lecture at Neuroprosthetics Laboratory, Werner Reichardt Centre for Integrative Neuroscience, Eberhard Karls Universität Tübingen, Germany, "The role of the sEMG signal processing in the field of the Human Movement Analysis"

April 2013

Education Course "Surface EMG in Industrial Medicine and Ergonomics" organized by the Department of Industrial Medicine, INAIL, Italy. "The effects of multivariate nature of muscular fatigue on its revelation from sEMG – indicators and limitations"

Publications on International Journals

[J1] Castronovo AM, Conforto S, Schmid M, Bibbo D, D'Alessio T (2013). How to assess Performance in Cycling: the Multivariate Nature of Influencing Factors and Related Indicators. *Frontiers in Physiology*, **4**(106)

[J2] De Marchis C, Schmid M., Bibbo D, Castronovo AM, D'Alessio T, Conforto S. (2013) Feedback of mechanical effectiveness induces adaptations in motor modules during cycling *Frontiers in Computational Neuroscience*, **7**(35)

Contributions to International Conferences

[IC1] Castronovo AM, Negro F., D'Alessio T., Farina D. (2013) Coherence between motor unit spike trains increases during submaximal fatiguing contractions of the Tibialis Anterior muscle. *Proceedings of the Annual Meeting of the Society for Neuroscience, San Diego, USA, November 8th- 13th*

[IC2] Conforto S, Castronovo AM, De Marchis C, Schmid M, Bertollo M, Robazza C, Comani S, D'Alessio T. (2013). The Fatigue Vector: A New Bi-dimensional Parameter for Muscular Fatigue Analysis. *IFMBE Proceedings of XIII Mediterranean Conference on Medical and Biological Engineering and Computing*, **41**:149-152, doi: 10.1007/978-3-319-00846-2_37.

[IC3] Comani S, Di Fronso S, Filho E, Castronovo AM, Schmid M, Bortoli L, Conforto S, Robazza C, Bertollo M. (2013). Attentional Focus and Functional Connectivity in Cycling: An EEG Case Study. *IFMBE Proceedings of XIII Mediterranean Conference on Medical and Biological Engineering and Computing*, **41**:137-140, doi: 10.1007/978-3-319-00846-2_34.

[IC4] Castronovo AM, De Marchis C, Bibbo D, Conforto S, Schmid M, D'Alessio T, (2012). Neuromuscular Adaptations during submaximal prolonged cycling. *Proceedings of the 34th International Conference of the IEEE EMBS, San Diego, USA, August 28th – September 1st.*

[IC5] De Marchis C, Castronovo AM, Bibbo D, Schmid M, Conforto S, (2012). Muscle synergies are consistent when pedalling under different biomechanical demands. *Proceedings of the 34th International Conference of the IEEE EMBS, San Diego, USA, August 28th – September 1st.*

[IC6] Belda-Lois JM, Castronovo AM, Conforto S, Laparra-Hernández J, Bermejo J (2010). On the identification of a Model for control of FES Tremor Suppression. *XVIII International Congress of Electromyography and Kinesiology Society (ISEK), Tremor Management Session, Aalborg, Denmark, June 16-19th.*

- Contributions to National Conferences** [NC1] Castronovo AM, De Marchis C, Bibbo D, D'Alessio T, (2012). Evaluation of Neuromuscular Efficiency at task failure during submaximal cycling. *Proceedings of the Third Conference of the Italian National Bioengineering Group, Rome, Italy, June 27-29th* .
- [NC2] De Marchis C, Castronovo AM, Bibbo D, Conforto S, (2012). Stability of muscle synergies across different pedalling strategies in untrained subjects. *Proceedings of the Third Conference of the Italian National Bioengineering Group, Rome, Italy , June 27-29th*