

PERSONAL INFORMATION

Silvia Conforto



📍 Department of Engineering - Via Vito Volterra, 62, 00146 Rome (Italy)

☎ +390657337305

✉ silvia.conforto@uniroma3.it

WORK EXPERIENCE

31 December 2011–Present

Associate professor of Biomedical Engineering

Associate Professor of Bioengineering, Roma TRE University, Rome (Italy)

teaching and research

2004–2011

Assistant Professor in Bioengineering

teaching and research

2013–Present

Member of the board of the Professors

PhD Program in Applied Electronics - Roma TRE University, Rome (Italy)

teaching, tutoring

2005–2012

Member of the board of Professors

PhD Program in Biomedical Electronics, Electromagnetism and Telecommunications - Roma TRE University, Rome (Italy)

teaching and tutoring

1999–2003

Post-Doctoral Research Fellow

University Roma TRE, Rome (Italy)

Research on vibrational analysis

1998–1999

Research fellow

University Roma TRE, Rome (Italy)

Research on time-frequency analysis

1993–1996

Research fellow

ITAB - University "G. D'Annunzio", Chieti e Pescara (Italy)

Research on biomedical signal processing

1994

Research Fellow

General Electrics, Center Research & Development, Schenectady (New York)

3 months research activity

1993

Research fellow

Zentralinstitut für Biomedizinische Technik - Ulm University, Ulm (Germany)

Research activity on artificial neural networks and biomedical signals processing

EDUCATION AND TRAINING

- 1999 **PhD in Biomedical Engineering**
University of Bologna, Bologna (Italy)
Final dissertation: *"Processing techniques for myoelectric surface signal in dynamic conditions"*
- 1992 **MSc in Electronic Engineering**
University of Rome "Sapienza", Rome (Italy)
Final dissertation: "Image compression by artificial neural networks and vector quantization"

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1
	Related document(s):				
French	B1	C1	B1	B1	A2
	Related document(s):				
German	A1	A1	A1	A1	A1
	Related document(s):				

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

Communication skills

[Related document\(s\):](#)

Organisational / managerial skills

[Related document\(s\):](#)

Job-related skills

[Related document\(s\):](#)

Computer skills

Other skills

[Related document\(s\):](#)

Driving licence

ADDITIONAL INFORMATION

Selection of recent publications

- Laudani A, Riganti Fulginei F, Salvini A, Schmid M, Conforto S, "CFSO3: A new supervised swarm-based optimization algorithm", *Mathematical Problems in Engineering* 2013 , art. no. 560614.
- De Marchis C, Schmid M, Bibbo D, Bernabucci I, **Conforto S**, (2013), "Inter-individual variability of forces and modular muscle coordination in cycling: A study on untrained subjects", *Human Movement Science*, 32(6):1480-94.
- 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*, 4:116.
- 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", *Front Comput Neurosci*, 7:35.
- Bofan M, Mores N, Baron M, Dabrowska M, Valente S, Schmid M, Trov  A, Conforto S, Zini G, Cattani P, Fuso L, Mautone A, Mondino C, Pagliari G, D'Alessio T, Montuschi P, (2013), "Within-day and between-day repeatability of measurements with an electronic nose in patients with COPD", *J. Breath Res.* 7:017103.
- Gneo M, Schmid M, **Conforto S**, D'Alessio T, (2012), "A Free Geometry Model Independent Neural Eye-Gaze Tracking System", *Journal of NeuroEngineering and Rehabilitation*, 9(1):1-15.
- Severini G, **Conforto S**, Schmid M, D'Alessio T, (2012), "Novel Formulation of a Double Threshold Algorithm for the Estimation of Muscle Activation Intervals designed for variable SNR environments", *Journal of Electromyography and Kinesiology*, 22 (6): 878-85.
- De Marchis C, Schmid M, **Conforto S**, (2012), "An optimized method for tremor detection and temporal tracking through repeated second order moment calculations on the surface EMG signal", *Medical Engineering & Physics*, 34(9):1268-1277.
- Goffredo M, Schmid M, **Conforto S**, Amorosi B, D'Alessio T, Palma C, (2012), "Quantitative color analysis for capillaroscopy image segmentation", *Medical and Biological Engineering and Computing*, 50(6): 567-574
- Severini G, **Conforto S**, Schmid M, D'Alessio T, (2012), "A multivariate auto-regressive method to estimate cortico-muscular coherence for the detection of movement intent", *Applied Bionics and Biomechanics*, 9(2): 135-43.
- Muscillo R, Schmid M, **Conforto S**, D'Alessio T, (2011), "Early recognition of upper limb motor tasks through accelerometers: real-time implementation of a DTW-based algorithm", *Comput Biol Med*, 41(3):164-72.
- Muscillo R, Schmid M, **Conforto S**, D'Alessio T, (2010), "An adaptive Kalman-based Bayes estimation technique to classify locomotor activities in young and elderly adults through accelerometers", *Medical Engineering & Physics*, 32: 849-59.
- Vannozzi G, **Conforto S**, D'Alessio T, (2010), "Automatic detection of surface EMG activation timing using a wavelet transform based method", *Journal of Electromyography and Kinesiology*, 20:767-772.
- Conforto S**, Bernabucci I, Severini G, Schmid M, D'Alessio T, (2009), "Biologically inspired modelling for the control of upper limb movements: from concept studies to future applications", *Frontiers in Neurobotics*, 3: 3.
- Toricelli D, Goffredo M, **Conforto S**, Schmid M, (2009), "An adaptive blink detector to initialize and update a view-based remote eye gaze tracking system in a natural scenario", *Pattern Recognition Letters*, 30: 1144-1150.
- Manto M, Grimaldi G, Lorivel T, Farina D, Popovic L, **Conforto S**, D'Alessio T, Belda-Lois J, Rocon E. (2009). "Bioinformatic approaches used in modelling human tremor", *Current Bioinformatics*, 4(2): 154-172.
- Goffredo M, Schmid M, **Conforto S**, Carli M, Neri A, D'Alessio T, (2009), "Markerless human motion analysis in Guss-Laguerre transform domain: application to sit-to-stand in young and elderly people", *IEEE Trans Inf Technol Biomed*, 13(2):207-216.

Toricelli D, **Conforto S**, Schmid M, D'Alessio T, (2008), "A Neural-Based Remote Eye Gaze Tracker under Natural Head Motion", Comput Methods Programs Biomed,92(1):66-78.

Goffredo M, Bernabucci I, Schmid M, **Conforto S**, (2008), "A Neural Tracking and Motor Control Approach to Improve Rehabilitation of Upper Limb Movements" Journal of NeuroEngineering and Rehabilitation, 5:5.

Synthesis of data on scientific production

As of January 17, 2014:

- from SCOPUS database: 87 publications, 478 citations, h-index: 13;
- from ISI Web of Knowledge: 53 publications, 289 citations, h-index: 10;
- from SCHOLAR: 108 publications, 687 citations, h-index: 16.

Programs funded by national and international bodies

- MIUR project PRIN: A new generation of personal interactive technologies to support motor skill learning and neuro-rehabilitation, grant agreement no 2009X3L8SW, 2009 (2011-2013).
- EU-FP7 Program FP7-ICT-2007-2 Project #224051: "TREMOR — An ambulatory BCI-driven tremor suppression system based on functional electrical stimulation" (2008-2011).
- DITAS Project - Disease Management and Teleassistance Service: "Teleassistance for the management of dependent critical patients - Mobile phone Application development" (2005-2007)
- MIUR Program PRIN #2005098195_004: "Neural and myoelectric correlates of adaptation, learning and motor control mechanisms" (2005-2007)

Teaching activity - course taught

- "Bioengineering Fundamentals", MSc in Bioengineering, School of Engineering, University Roma TRE, Roma, Italy, (2008-present).
- "Biomedical Signals and Data Processing", MSc in Bioengineering, School of Engineering, University Roma TRE, Roma, Italy, (2008-present).
- "Biomedical Signals and Data Processing", MSc in Electronic Engineering, School of Engineering, University Roma TRE, (2003-2008).
- "Biomedical Instrumentation", MSc in Electronic Engineering, School of Engineering, University Roma TRE, (2000-2006).
- "Processing systems for signals from dynamic measurements", MSc in Mechanical Engineering, School of Engineering, University Roma TRE, Teaching Assistant (1997-2001).
- "Electronic Bioengineering", BSc Radiology Technicians, School of Medicine, University of Rome "Sapienza", (1998-2001).
- "General Physics", Faculty of Sciences, Università degli Studi del Molise, Isernia, Teaching Assistant, Academic Year 1996-1997.

Teaching: tutoring and recruitment in national and international contexts

- 1996-present: teaching advisor for around 50 theses and final exams within the BSc and MSc in Electronic Engineering, and MSc in Bioengineering, School of Engineering at Roma Tre University.
- 2005-present: tutor for 4 PhD students within the PhD programme in Biomedical Electronics, Electromagnetics and Telecommunications, and the PhD programme in Applied Electronics, School of Engineering, Roma Tre University.
- 2013 – Biomedical Engineering PhD Program, University Alma Mater Studiorum of Bologna: member of the commission for the admission of PhD students, cycle XXVIII.
- 2013 -European Society of Biomechanics (Patras University - Greece) - teacher
- 2008 - Technical University of Ostrava (Czech Republic) in the framework of the Teaching Mobility Program - LLP/ERASMUS 2007 - teacher
- 2007- Technical University of Ostrava (Czech Republic) in the framework of the Teaching Mobility Program - SOCRATES/ERASMUS action 2.2 - teacher

Invited lectures

2006 - invited lecture "Signals and Systems in Human Motion", at the Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture (FESB), University of Split, Split, Croazia.

2009 - invited lecture "The role of the sEMG signal processing in the field of the Human Movement Analysis", Medical Physics and Biomedical Engineering World Congress 2009, Munich, Germany, 2009.

2013 - invited lecture "Tecnologie sostenibili per favorire lo sviluppo, l'uso ed il mantenimento delle competenze dell'uomo nell'interazione con l'ambiente", Sessione: Tecnoscienza: per l'uomo, oltre la natura, in seno al X Simposio Internazionale dei Docenti Universitari 20-22 giugno 2013

2013 - invited lecture "The Muscle Synergy Model in Neuromechanics: A Simple Explanation of a Complex Problem" - Simposio Scientifico dal titolo "Advances in Neuroscience", dedicato in Memoria a Rita Levi-Montalcini, 30 ottobre 2013

Partecipazione to programme committees

2013 - Fourth Congress of the Gruppo Nazionale di Bioingegneria (GNB), Scientific Committee Member.

2012 - Third Congress of the Gruppo Nazionale di Bioingegneria (GNB), Rome, Italy. Local Committee Member.

2009 - 11th IFBME World Congress, Munich, Germany, Organizer of the Focus Sessions "Human Movement and Posture Analysis".

2008 - Third Young Biomedical Engineers and Researchers Conference (YBERC), Ostrava, Czech Republic, Scientific Committee Member.

2008 - 4th European Conference of the International Federation for Medical and Biological Engineering (ECIFMBE), Antwerp, Belgium. Organizer of the Special Session "Measurements, signal processing and models for human movement and posture analysis".

2007 - 3rd WSEAS International Conference on REMOTE SENSING (REMOTE'07), Venice, Italy. Chairman of the Special Session "Signals and Systems in Human Motion".

2005 - Third European Medical Biological Engineering Conference, EMBEC'05, Prague, Czech Republic. International Advisory Committee (IAC) Member.

Editorial and reviewing activities

Editorial Committee Member - ISRN Biomedical Engineering

Reviewer - Journal of Biomechanics

Reviewer - Experimental Brain Research

Reviewer - Medical Engineering & Physics

Reviewer - Medical & Biological Engineering & Computing

Reviewer - Mathematical Biosciences

Reviewer - IEEE Transactions on Biomedical Engineering

Reviewer - JNER

Reviewer - Signal Image and Video Processing

Awards

ELSEVIER PRIZE 2000 for the best paper presented at the I SIAMOC Congress ("Heart Effects on Postural Sway" - Conforto S, T. D'Alessio, Schmid M, A. Cappozzo.

"RICCARDO MACERATINI" PRIZE 2002 for the best Bioengineering PhD dissertation of the period 1999-2001.

Academia

Centro Universitario BIND - Behavioral Imaging and Neural Dynamics (member of the Steering Committee)

Interuniversity Centre of Bioengineering of the Human Neuromusculoskeletal System (member of the Executive Committee)