CURRICULUM VITAE

Marco Buiatti, PhD

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Professional Experience:

2015 – present	Tecnico EP – Responsible EEG BabyLab Center for Mind/Brain Sciences University of Trento, Italy
2010 – 2014	Research Engineer INSERM Cognitive Neuroimaging Unit (U992) Gif-sur-Yvette, France
2007- 2009:	Postdoctoral Fellow Center for Mind/Brain Sciences University of Trento, Italy
2005 –2006	Postdoctoral Fellow INSERM Cognitive Neuroimaging Unit (U992) Orsay, France. PI: Dr. Ghislaine Dehaene-Lambertz.
2002 - 2005:	Postdoctoral Fellow Neurophysics and Physiology Laboratory (CNRS) Paris, France. PI: Dr. Carl van Vreeswijk

Education:

2002 - 2006:	PhD in Neuroscience, Doctoral School "Cerveau Cognition Comportament", Université Pierre et Marie Curie, Paris, France. Supervisor: Dr. Carl van Vreeswijk.
1999 - 2001:	MPhil in Computational Neuroscience, Gatsby Computational Neuroscience Unit (UCL) London, United Kingdom. Supervisor: Prof. Geoffrey Hinton.
1998:	Postgraduate Research Fellow

Biophysics Institute (CNR)
Pisa, Italy.
Supervisor: Prof. Paolo Grigolini.

1997: Laurea degree in Physics (110/110 summa cum laude)
University of Pisa, Italy.
Supervisor: Prof. Paolo Grigolini.

Grants and awards:

2005 – 2006 "Jeunes Chercheurs" Postdoctoral Fellowship,
INSERM, France

2002 – 2004 EU Individual Marie-Curie Postdoctoral Fellowship

1998 Postgraduate Research Fellowship, CNR, Italy

Schools/Training:

Cryogenics.
Centre Energie Atomique, Saclay, France (2012).

Brainstorm (software for EEG/MEG analysis)
Satellite Course of Biomag, 18th International Conference on Biomagnetism, Paris,
France (2012).

EEG/MEG SPM (software for EEG/MEG analysis)
Functional Imaging Laboratory, University College London, London, UK (2011).

Elekta MEG Professional Training
Hopital La Salpetriere, Paris, France (2011)

EEGLAB Workshop (software for EEG analysis)
Aspet, France (2007).

Synchronization in nonlinear systems and complex networks
Societa' Italiana Caos e Complessita', Firenze, Italy (2005)

Advanced methods of elaboration of biomedical signals,
Italian national Group of Bioengineering, Bressanone, Italy (2004)

School on Neural Information Processing,
Abdus Salam International Centre for Theoretical Physics, Trieste, Italy (1999).

Teaching:

"Theory and practice of Experimental Magnetoencephalography", periodic training
course, Neurospin MEG Laboratory, Gif-sur-Yvette, France (2011-2014).

"Frequency-tagging", invited lesson within the course "Ecole Oscillations Paris", Institute Cerveau Moelle epiniere, Paris, France (2011).

"Multidimensional analysis of the neural dynamics underlying a cognitive process", invited lesson within the summer school "Bioingegneria per le Scienze Cognitive", Bressanone, Italy (2009).

"Advanced Methods of EEG/MEG Data Analysis" (8 hours) within the course "Metodi Indagine Neuroscienze Cliniche Cognitive", Faculty of Cognitive Sciences, University of Trento, Academic Year 2008/2009 Assistant during examination at the same course.

"EEG beyond ERP" (3 hours) within the course "Psychophysiology", Faculty of Cognitive Sciences, University of Trento, Academic Year 2007/2008. Assistant during examination at the same course.

"Correlations in DNA sequences : a tool to study their complex structure", Politecnico Institute, Torino, 2005 *(invited lecture)*

Supervision

Claire Kabdebon, PhD student, Doctoral School "Cerveau Cognition Comportement", Université Pierre et Marie Curie, Paris, France.
Co-supervised with Dr. Ghislaine Dehaene-Lambertz (2012-).

Andrea Mognon, Tesi di laurea specialistica,
Department of Engineering and Telecommunications, University of Trento,
co-supervised with Prof. Lorenzo Bruzzone. Graduated January 2008.

Editorial board:

Theoretical Biology Forum.

Ad-Hoc Reviewer:

Neuroimage, Journal of Neuroscience Methods, Frontiers in Human Neuroscience, Cognitive Neuropsychology, Brain Connectivity, Physical Review E, Chaos Solitons & Fractals, Physica A, Journal of Biological Physics, IEEE Transactions Biomedical Engineering, Computers in Biology and Medicine, ICASSP (IEEE Signal Processing Society).

Congress/Meeting Abstracts:

Borghesani V, Pedregosa F, Eger E, **Buiatti M**, Piazza M (2014) A perceptual-to-conceptual gradient of word coding along the ventral path.
IEEE Pattern Recognition in Neuroimaging, Tubingen, Germany.

Buiatti M, Finocchiaro C, Caramazza A, Dehaene S, Piazza M (2012), Word meaning in the human brain: evidence for distinct category specific neural semantic spaces. Biomag, 18th International Conference on Biomagnetism, Paris, France.

Roger C, **Buiatti M**, van Wassenhove V (2012) Self-monitoring of internal clock shifts: automatic vs. conscious access to time. Biomag, 18th International Conference on Biomagnetism, Paris, France.

Roger C, **Buiatti M**, van Wassenhove V (2012) How do cognitive mechanisms react and adjust after a disruption of the internal clock? A combined MEG-EEG study. Society for Neurosciences, New-Orleans, USA.

Assecondi S, Bianchi A, **Buiatti M**, Ferrari P, Mazza V, Schwarzbach JV, Jovicich J. A nonlinear template-based approach for BCG artifact removal in EEG-fMRI recordings at high fields. Organization of Human Brain Mapping, Barcelona, 2010.

Assecondi S, **Buiatti M**, Ferrari P, Mazza V, Schwarzbach JV, Jovicich J. Ballistocardiographic artifact removal from simultaneous EEG-fMRI recordings at 4 T. ISMRM Italian Chapter Annual Meeting, Milan, Italy, 2010.

Buiatti M, Pena M, Dehaene-Lambertz G, Using brain 'frequency-tagging' resonance properties to disentangle neural responses to different hierarchical units of continuous speech. , XIX Congresso Nazionale della Società Italiana di Biofisica Pura e Applicata (SIBPA), Roma (Italy), September 17-20, 2008 (*refereed abstract*).

Sigman M, **Buiatti M**, Dehaene S, Neurophysiologic correlates of sequential processing in the human brain, Society for Neuroscience Meeting, Atlanta (USA), October 13-17, 2006 (*refereed abstract).*

Garello R, **Buiatti M**, Galleani L, On the study of correlation in DNA sequences, I FIMA (Federazione Italiana Matematica Applicata) International Conference "Models and Methods for Human Genomics", Ayas-Champoluc, Aosta Valley (Italy), January 23-27, 2006 (*refereed abstract and selected oral presentation).*

Buiatti M, Van Vreeswijk C, Variance normalisation: a key mechanism for temporal adaptation in natural vision? The Annual Computational Neuroscience Meeting, Alicante, Spain, July 5-9, 2003. (*refereed abstract and selected oral presentation)*

Buiatti M, Van Vreeswijk C, Variance normalisation: a crucial mechanism for dynamic adaptation in natural vision? Complessita' e scienze della vita, Italian Society for Chaos and Complexity, June 14-15 2002, Pisa, Italy. (*refereed abstract and oral presentation)*

Buiatti M, Acquisti C, Mersi G, Bogani P, **Buiatti M**, The biological meaning of DNA correlations, Fractals 2000 in Biology and Medicine, March 8-11 2000, Ascona, Switzerland.

Buiatti M, Allegrini P, Grigolini P, Randomness, heterogeneity and scaling in DNA walks, American Physical Society Centennial Meeting Program, March 20-26, 1999, Atlanta, GA. (*refereed abstract and oral presentation)*

Allegrini P, **Buiatti M**, Grigolini P, West B, Fractional Brownian motion in DNA sequences as a non-stationary process, Meeting of the Texas District of the American

Physical Society, October 1996, Arlington, TX. *(refereed abstract)*

Publications:

Andres M, Finocchiaro C, **Buiatti M**, Piazza M. Motor interference during lexico-semantic processing of action verbs,
Cognition 134, 174-184 (2015).

Pegado F, Comerlato E, Ventura F, Jobert A, Nakamura K, **Buiatti M**, Ventura P, Dehaene-Lambertz G, Kolinsky R, Morais J, Braga LW, Cohen L, Dehaene S. Timing the impact of literacy on visual processing,
Proceedings of the National Academy of Sciences 111 (49), E5233-E5242 (2014).

Mognon A, Bruzzone L, Jovicich J, **Buiatti M**, ADJUST: An Automatic EEG artifact Detector based on the Joint Use of Spatial and Temporal features.
Psychophysiology 48 (2), 229-240 (2011).

Forget J, **Buiatti M**, Dehaene S, Temporal integration in visual word recognition,
Journal of Cognitive Neuroscience 22(5), 1054-1068 (2010).

Buiatti M, Pena M, Dehaene-Lambertz G, Investigating the neural correlates of continuous speech computation with frequency-tagged neuroelectric responses,
Neuroimage 44, 509-519 (2009).

Kalashyan A, **Buiatti M**, Grigolini P, Ergodicity breakdown and scaling in single sequences, *Chaos, Solitons & Fractals* 39(2), 895-909 (2009).

Buiatti M The correlated nature of large scale brain activity unveiled by the resting brain. *Biology Forum* 101, 353-73 (2008).

Buiatti M, **Buiatti M**, Chance vs. Necessity in Living Systems: A False Antinomy,
Biology Forum 101, 29-66 (2008).

Buiatti M, Papo D, Baudonniere PM, van Vreeswijk C, Feedback modulates the temporal scale-free dynamics of brain electrical activity in a hypothesis testing task,
Neuroscience, 146 (3), 1400-1412 (2007).

Buiatti M, Buiatti M, Towards a statistical characterisation of the Living State of Matter, *Chaos, Solitons & Fractals*, 20 (1), 55-61 (2004).

Buiatti M, Van Vreeswijk C, Variance normalisation: a key mechanism for temporal adaptation in natural vision?, *Vision Research* 43 (17), 1895-1906 (2003).

Buiatti M, Acquisti C, Mersi G, Bogani P, **Buiatti M**, The biological meaning of DNA correlations, in "Fractals in Biology and Medicine, Volume III, Mathematics and Biosciences in interaction", Birkhauser Ed., Berne (2002).

Buiatti M and **Buiatti M**, The living state of matter, *Biology Forum*, 94 (1), 59-82 (2001).

West BJ, Allegrini P, **Buiatti M**, Grigolini P, Non-normal Statistics of DNA Sequences of Prokaryotes, *Journal of Biological Physics* 26 (1), 17-25 (2000).

Buiatti M, Grigolini P, Montagnini A, Dynamic Approach to the Thermodynamics of Superdiffusion, *Physical Review Letters* 82, 3383-3387 (1999).

Buiatti M, Grigolini P, Palatella L, A non extensive approach to the entropy of symbolic sequences, *Physica A* 268, 214 (1999).

Allegrini P, **Buiatti M**, Grigolini P, West BJ, Non-Gaussian statistics of anomalous diffusion: the DNA sequences of prokaryotes, *Physical Review E* 58, 3640-3648 (1998).

Allegrini P, **Buiatti M**, Grigolini P, West BJ, Fractional Brownian Motion as a Nonstationary Process: an Alternative Paradigm for DNA sequences, *Physical Review E* 57, 4558-4567 (1998).

Book chapters:

Buiatti M, Multidimensional analysis of the neural dynamics underlying a cognitive process, in *Bioingegneria per le Scienze Cognitive*, Edizioni Patron, Bologna (Italy), (2009). Book chapter, in Italian.

Buiatti M, Correlations, in Marcello Buiatti, *Lo stato vivente della materia*, Edizioni UTET, Torino (2000). Book chapter, in Italian