

Curriculum vitae Laura Marzetti

• PERSONAL INFORMATION

Family name, First name: Marzetti, Laura
Researcher unique identifier: ORCID: <http://orcid.org/0000-0002-6481-3743>,
Scopus Author ID:16234161800
Nationality: Italian
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• EDUCATION AND QUALIFICATION

2013 Italian Ministry of Education, Universities and Research (MIUR) National Scientific Qualification for the role of Associate Professor in Applied Physics
2008 PhD in Functional Neuroimaging: from cells to systems, Dept. Clinical Sciences and Bioimaging, "G. d'Annunzio" University of Chieti (UdA) - Pescara, Italy
2000 Master of Science in Electronic Engineering, University of Ancona, Italy

• CURRENT POSITION, PREVIOUS POSITIONS AND FELLOWSHIPS

2015 - Assistant Professor for Applied Physics in Tenure Track (RU-B art. 24, 3b L.240/2010) Dept. Neuroscience, Imaging and Clinical Sciences, UdA, Italy
2017 - Head of the Methods And Models for Brain Oscillations (MAMBO) laboratory at the Institute for Advanced Biomedical Technologies, UdA, Italy
2011- 2015 Fixed Term Assistant Professor for Applied Physics under the research program *Development of methods for investigating functional connectivity at rest with magnetoencephalography* funded by Human Connectome Project (1U54MH091657-01), NIH, USA; Dept. Neuroscience and Imaging, UdA, Italy
2007- 2010 Post-doc Fellow under the research program *Development of methods for MEG-fMRI integration*, Dept. Clinical Sciences and Bioimaging, UdA, Italy
2002 - 2004 Research Associate, BAT Ila, Zentralinstitut für Biomedizinische Technik, Arbeitsbereich Biosignal- und Bildgebungstechnologie, Universität Ulm, Germany
2001- 2002 Biomedical Engineer, Advanced Technologies Biomagnetics srl. Pescara, Italy

• SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

2013 – 2017 Number of Postdocs: 2 and Number of PhDs: 3 at UdA, Chieti, Italy; Number of Master Students: 2 from "UNIVPM" Ancona, Italy and "Sapienza" University, Roma, Italy

• TEACHING ACTIVITIES

2017 – Responsible Professor, Methodologies for Applied Physics, M.Sc. Medicine, UdA, Italy
2017 Responsible Teacher at the University of Electronic Science and Technology of China Summer School, Chengdou, China
2012 – Responsible Professor, Physics, M.Sc. in Engineering UdA, Italy
2012 - 2013 Responsible Professor, Informatics, M.Sc. in Physiotherapy UdA, Italy 2011- 2015 Responsible Professor, Physics, M.Sc. in Physiotherapy UdA, Italy
2009 – Responsible Teacher in doctoral course: Matlab programming for Neuroscience, PhD in "Neuroscience and Imaging" and in "Functional Neuroimaging", UdA, Italy

• ORGANISATION OF SCIENTIFIC MEETINGS

2017 Symposium Chair and Organizer OHBM Annual Meeting–Vancouver, Canada (>1000 participants)
2016 Symposium Chair and Organizer 20th International Conference on Biomagnetism (BIOMAG2016), Seoul, Korea (>500 participants)
Project Meeting of BREAKBEN—H2020-FETOPEN-2014-2015, Rigopiano, Italy (about 30 participants)
2015 Workshop Organizer and Chair: "Disentangling the brain Web: a perspective from MEG",

Chieti, Italy (about 50 participants)
2015 Co-Chair and Organizer of Morning Workshop OHBM Annual Meeting – Honolulu, Hawaii, USA (>1000 participants)

- **INSTITUTIONAL RESPONSIBILITIES**

2016 – Member elected of steering board of the Dept. Neuroscience, Imaging and Clinical Sciences, Uda, Italy

2017 – Member of the Institute for Advance Biomedical Technologies (ITAB) research infrastructure steering board, Uda, Italy

2013 - 2014 Member of the executive board of the Doctoral Programme in Neuroscience and Imaging, Uda, Italy

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

2016 - 17 Member of the International Organization of Psychophysiology (IOP)

2013 - 16 Member of the Organization for Human Brain Mapping (OHBM)

2013 Member of the Italian society for Bioengineering

2011 - 12 Member of the Society for Neuroscience (SfN)

2005-2006 Member of the Organization for Human Brain Mapping (OHBM)

- **MAJOR COLLABORATIONS AND INTERNATIONAL MOBILITY**

More than the 45% of the scientific publications are the result of international collaborations with leading institutes in the field of method development and applications, e.g. i) University Medical Center Hamburg-Eppendorf (UKE), Hamburg, Germany; ii) Washington University St. Louis, USA; iii) Cuban Neuroscience Center (CNC), Habana, Cuba; iv) Donders Institute for Brain, Cognition and Behaviour (DCCN) of the Radboud University, Nijmegen, The Netherlands. Additionally, Marzetti has worked in Germany for 2 years at the University of Ulm and for 3 months at the Fraunhofer FIRST Institute Berlin.

- **SCIENTIFIC CONTRIBUTIONS**

The main research area of Marzetti is non-invasive neuroimaging, mainly data analysis methods for MEG and EEG and applications in human neuroscience. She has contributed to methods for functional connectivity that were among the first to provide evidence for the neurophysiological hypothesis that large-scale communication in the brain is mediated by phase synchronization, coping at the same time with the issue of fake interactions in MEG and EEG. In human neuroscience, she has investigated MEG correlates of the BOLD concept of Resting State Networks (RSNs). Noteworthy, when she began to work in the field, there was no direct evidence of electrophysiological correlates of RSNs. This work was conducted in cooperation with outstanding researchers in the framework of the EU FP7 project Brainsynch (HEALTH-2007-200728, PI: Corbetta). Marzetti has expanded beyond MEG/EEG by actively contributing to the multimodal approach to anatomical and functional connectomics pursued in the Human Connectome Project (1U54MH091657-0, PIs: Van Essen and Ugurbil). Currently, she conducts her research at the Institute for Advanced Biomedical Technologies in Chieti directed by Prof. Gian Luca Romani, a pioneer in the field of biomagnetism.

Editor and referee for scientific journals and grant applications.

Marzetti is acting as a reviewing editor for Frontiers in Neuroscience - Brain Imaging and Methods section, and as guest editor for Brain Topography (“Controversies in EEG Source Imaging”). She is acting as regular reviewer (> 1 assignment/year) for important journals in the field: Neuroimage, Brain Connectivity, Brain Topography, as reviewer for several journals including eNeuro, PlosOne, IEEE Trans Biomed. Eng., and as grant reviewer for Netherlands and Flanders Organizations for Scientific Research.

- **PUBLICATIONS**

Complete list of publications available at <https://www.ncbi.nlm.nih.gov/sites/myncbi/1FqSc14T-5Z5L/bibliography/44605801/public/?sort=date&direction=ascending>

1. Chella F, Pizzella V, Zappasodi F, Marzetti L. Impact of the reference choice on scalp EEG connectivity estimation. Journal of Neural Engineering 2016 May 3; 13 (3), 036016

2. Betti V, Della Penna S, de Pasquale F, Mantini D, Marzetti L, Romani GL, Corbetta M. Natural scenes viewing alters the dynamics of functional connectivity in the human brain. *Neuron*. 2013 Aug 21;79(4):782-97. doi: 10.1016/j.neuron.2013.06.022.
3. Marzetti L, Della Penna S, Snyder AZ, Pizzella V, Nolte G, de Pasquale F, Romani GL, Corbetta M. Frequency specific interactions of MEG resting state activity within and across brain networks as revealed by the multivariate interaction measure. *Neuroimage*. 2013 Oct 1; 79:172-83. doi: 10.1016/j.neuroimage.2013.04.062.
4. de Pasquale F, Della Penna S, Snyder AZ, Lewis C, Mantini D, Marzetti L, Belardinelli P, Ciancetta L, Pizzella V, Romani GL, Corbetta M. Temporal dynamics of spontaneous MEG activity in brain networks. *Proc Natl Acad Sci U S A*. 2010 Mar 30;107(13):6040-5. doi: 10.1073/pnas.0913863107.
5. Marzetti L, Del Gratta C, Nolte G. Understanding brain connectivity from EEG data by identifying systems composed of interacting sources. *Neuroimage*. 2008 Aug 1;42(1):87-98. doi: 10.1016/j.neuroimage.2008.04.250.

• **INVITED PRESENTATIONS TO INTERNATIONALLY ESTABLISHED CONFERENCES AND ADVANCED SCHOOLS (LAST 10 YEARS)**

- 2017 September** Interdisciplinary Workshop Coupling and Causality in Complex Systems - September 25-27, 2017 - Cologne, Germany
Invited speaker
- 2017 July** University of Electronic Science and Technology of China (UESTC) Summer School – July 11-15, 2017 - UESTC, Chengdou, China
Invited Lecturer
- 2017 July** 5th International Workshop on Neuroinformation, dedicated to neuroimaging, and focus in EEG, MEG and MRI – July 7-9, 2017 - Key Laboratory for Neuroinformation of Ministry of Education, Chengdou, China
Keynote speaker
- 2017 June** Organization for Human Brain Mapping (OHBM) – June 25-29, 2017 - Vancouver, Canada
Chair and speaker at the symposium: "*Interaction of neuronal oscillations in multiple spatio-temporal scales: from methods to cognition.*"
- 2017 June** Organization for Human Brain Mapping (OHBM) – June 25-29, 2017 - Vancouver, Canada
Invited speaker at the educational course: "*EEG and MEG connectivity: Basic principles, state-of-the-art methods, and emerging vistas*"
- 2016 October** 20th International Conference on Biomagnetism (BIOMAG2016), October 1-6, 2016 Coex, Seoul, Korea.
Chair and speaker at the symposium: "*Revealing signatures of intrinsic coupling modes by MEG: insights from new methods*"
- 2016 October** 2016 Tübingen MEG Symposium - October 26-27, 2016 - Tübingen, Germany
Invited speaker
- 2016 September** 18th IOP World Congress of Psychophysiology - August 31- September 4, 2016 - Habana, Cuba
Oral Presentation in the symposium: "*How useful are nonlinear methods for EEG and MEG data analysis?*"
- 2015 September** MEG international workshop: "Disentangling the brain Web: a perspective from MEG" – September 16-18, 2015 - Chieti, Italy
Oral Presentation: "*Introduction to functional connectivity analysis with MEG*"
- 2015 June** Organization for Human Brain Mapping (HBM) – June 14-18, 2015 - Honolulu, Hawaii (USA)
Chair and speaker at the Morning Workshop "*Time is of the essence: the role of EEG and MEG in mapping the human brain*"
- 2013 June** Organization for Human Brain Mapping (HBM) – June 16-20, 2013 – Seattle (USA)
Oral Presentation
- 2013 June** "Disentangling the brain web: a perspective from MEG" International Symposium CiMeC - June 25-26, 2013 – Rovereto (Italy) Invited speaker

- 2009 July Conference on Applied Inverse Problems – July 20-24, 2009 – Wien (Austria)
Oral Presentation
- 2009 May 7th International Symposium on Noninvasive Functional Source Imaging of the Brain and Heart & 7th International Conference on Bioelectromagnetism – May 29-31, 2009 – Rome (Italy)
Oral Presentation

• **PRIZES AND AWARDS**

- 2013 19th Annual Meeting of the Organization for Human Brain Mapping, Seattle, USA, Travel Award
- 2007 Joint Meeting of the 6th International NFSI Symposium and International Conference on Functional Biomedical Imaging–Hangzhou, China, Student Paper Competition Prize
- 2006 12th Annual Meeting of the Organization for Human Brain Mapping, Florence, Italy, Travel Award
- 2004 14th International Conference on Biomagnetism, Boston, USA, Samuel Williamson Award

• **ONGOING GRANTS**

Mindfulness Meditation shapes synchronization of Brain Networks for effective perceptual decision making, BIAL foundation grant, amount 42.000 €, from 2017-09-01 to 2019-08-31, Role: Principal Investigator.

Chieti, 07/11/2017

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