

## Personal and Contact Details

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Place and Date of birth	Rome (Italy) 28 March 1988	Nationality	Italian



## Publications

### Peer-Reviewed Articles

Fusca, Marco; Neuling, Toralf; Ruhnau, Philipp; Weisz, Nathan (2018) Local network-level integration mediates effects of transcranial Alternating Current Stimulation. *Brain Connectivity*, 8(4), 212-219. DOI: [10.1101/216176](https://doi.org/10.1101/216176)

Ruhnau, Philipp; Neuling, Toralf; Fusca, Marco; Herrmann, Christoph S.; Demarchi, Gianpaolo; Weisz, Nathan (2016) Eyes wide shut: Transcranial alternating current stimulation drives alpha rhythm in a state dependent manner. *Scientific Reports*, 6, 27138. DOI: [10.1038/srep27138](https://doi.org/10.1038/srep27138)

Gregory, Sarah; Fusca, Marco; Rees, Geraint; Schwarzkopf, D. Samuel; Barnes, Gareth (2016) Gamma frequency and the spatial tuning of primary visual cortex. *Plos One* 11(6), e0157374. DOI: [10.1371/journal.pone.0157374](https://doi.org/10.1371/journal.pone.0157374)

Neuling, Toralf; Ruhnau, Philipp; Fusca, Marco; Demarchi, Gianpaolo; Herrmann, Christoph S.; Weisz, Nathan (2015) Friends, not foes: MEG as a tool to uncover brain dynamics during tACS. *NeuroImage* 118, 406-413. DOI: [10.1016/j.neuroimage.2015.06.026](https://doi.org/10.1016/j.neuroimage.2015.06.026)

### Submitted - Preprint

Sanchez, G.; Frey, J. N.; Fusca, M.; & Weisz, N. (submitted, 2018) Decoding across sensory modalities reveals common supramodal signatures of conscious perception. *PNAS / bioRxiv*, 115535. DOI: [10.1101/115535](https://doi.org/10.1101/115535)

### Conference Proceedings

Ruhnau, P.; Neuling, T.; Fusca, M.; Herrmann, C. S.; Demarchi, G.; & Weisz, N. (2017). P166. Evidence for state dependent direct effects of alpha band transcranial alternating current stimulation. *Clinical Neurophysiology*, 128(3), e99. DOI: [10.1016/j.clinph.2016.10.287](https://doi.org/10.1016/j.clinph.2016.10.287)

Neuling, T.; Ruhnau, P.; Fusca, M.; Demarchi, G.; Herrmann, C. S.; & Weisz, N. (2015). Shed light on the black box: Using MEG to recover brain activity during tACS. *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation*, 8(2), 381-382. DOI: [10.1016/j.brs.2015.01.221](https://doi.org/10.1016/j.brs.2015.01.221)

Fusca, M.; Ruhnau, P.; Demarchi, G.; Weisz, N.; & Neuling, T. (2015). Brain Modulation during transcranial Alternating Current Stimulation recorded with MEG. *Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation*, 8(2), 386. DOI: [10.1016/j.brs.2015.01.234](https://doi.org/10.1016/j.brs.2015.01.234)

## Research Experience

- PostGraduate Research, CCNS, University of Salzburg 03/2014 - Ongoing  
[Salzburg Brain Dynamics lab](#); research advisor: N. Weisz  
 - M-EEG with concurrent TMS/tACS, causal inference of ERC-founded project *WIN2CON*
- Graduate Research, CIMEC, University of Trento 10/2011 - 10/2014  
[Perception and Attention lab](#); research advisor: J.V. Schwarzbach  
 - MEG and fMRI in the Perceptual decision making project  
 - Eyetracking/fMRI in the ITPAR project (India-Trento Program for Advanced Research)
- Graduate Research, Dartmouth College 07/2014 - 09/2016  
[Haxby lab](#); project partners: M. Visconti di Oleggio Castello, N. Oosterhof, I. Gobbini  
 - Collaboration on a familiarity decoding multimodal fMRI and MEG study.
- Graduate Research, FIL - UCL 01 - 07/2013  
[Schwarkopf lab](#); research advisors: S. D. Schwarzkopf, G.R. Barnes, G. Rees  
 - Multimodal fMRI and MEG project relating retinotopic maps to perceptual function.

## Teaching Experience

- Lecturer, Dept. of Psychology, University of Salzburg 10/2018 - Ongoing  
[Empirical Seminar](#); Bachelor's Programme in Psychology  
 - MEG, Predictive Coding, MVPA Decoding, Conducting and Analysing an MEG study
- Teaching Assistant, CCNS, University of Salzburg 04/2017  
 Open University Course; Lecturer: G. Sanchez  
 - Bayesian Inference, Free energy, SPM12 DCM
- Teaching Assistant, CCNS, University of Salzburg 04 - 05/2016  
 Open University Course; Lecturers: G. Sanchez, C. Lithari  
 - Connectivity, Granger Causality, Graph Mapping, Fieldtrip Analyses Pipeline
- Workshop Assistant, FIL - UCL 05/2013  
[SPM for EEG/MEG](#); Workshop Organizer: G. Barnes  
 - SPM8 Analyses Pipeline, Preprocessing, ERP/Fs, TFRs, Source Reconstruction, DCM

## Education

- Doctoral Degree, Cognitive Neuroscience, University of Trento, Trento, Italy 10/2014 – 03/2018  
 Three-year PhD program in CIMEC (Center for Mind/Brain Sciences)  
 Supervisor: Weisz, N.  
 Thesis: *Predispositions of Conscious Perception: from Correlation to Causation*  
 Overall class grade: *cum laude*
- Master Degree, Cognitive Neuroscience, University of Trento, Trento, Italy 09/2011 - 12/2013  
 Two-year research-focused Master's course in Cognitive Neuroscience in CIMEC  
 Supervisor: Schwarzbach, J.V.  
 Thesis: *Abstract Auditory Categorical Representations and Domain-General Decision Making*  
 Overall class grade: 110 (out of 110) *cum laude* (Best CIMEC Graduate 2013)
- Bachelor's Degree, Cognitive Psychology, University "La Sapienza", Rome, Italy 09/2008 - 07/2011  
 Three-year Laurea in "Psychological sciences and techniques for the analysis and the clinical evaluation of cognitive processes" at the Medicine and Psychology Faculty  
 Supervisor: Rossi-Arnaud, C.  
 Thesis: *Processing Central and Peripheral Details: How Emotional Content Influences Memory*  
 Overall class grade: 110 (out of 110) *cum laude*

## Conferences and Posters

### First author poster presentations

- [10 years of CIMEC, 2017](#) Poster Presentation, Rovereto, Italy 10/2017  
Conference for 10th anniversary of CIMEC. Poster: *What happens in the brain during tACS?*
- [BioMag 2016](#) Poster Presentation, Seoul, South Korea 10/2016  
20<sup>th</sup> International Conference. Poster: *Online State-Dependent Effects of tACS*
- [Model-Based Neuroscience](#) Summer School / Poster Presentation, Amsterdam, NL 07/2016  
3<sup>rd</sup> Workshop and Conference. Poster: *Rapid Auditory Categorization in the right Parietal lobe*
- [International Brain Stimulation Conference](#) Poster Presentation, Singapore 03/2015  
1<sup>st</sup> International Elsevier Conference. Poster: *Brain Modulation during tACS recorded with MEG*
- [BioMag 2014](#) Poster Presentation, Halifax, NS, Canada 08/2014  
19<sup>th</sup> International Conference on Biomagnetism. Poster: *Abstract Auditory Categorical Representations and Domain-General Decision Making: a Multivariate MEG study*

### Conferences attended

Cognitive Science Arena, 2015, 2017; Tübingen MEG Symposium, 2015; RAW, 2015; CAOs, 2014, 2015, 2017; SAMBA Meeting, 2017, 2018 (Organizer).

### Workshops attended

SPM MEG course, 2013 (Organizer); Donders Tool-kit on tBS, 2014; The Brain and Ideas, 2014; Model-Based Neuroscience, 2016; Motivation, Selection, and Information, 2017.

## Honours and Awards

- [Best CIMEC MSc Graduate 2013](#), University of Trento, Trento, Italy 13/11/2014
- [Scholarship](#), Opera Universitaria, University of Trento, Trento, Italy 10/2011 - 12/2013
- [Fellowship](#), College of Merit "Bernardo Clesio", University of Trento 07/2012- 12/2013

## Languages

*Mother tongue* **Italian**

*Second Language* **English (C2)**

*Other Languages* Spanish (B2); French (A2); German (A2)

## Other Skills and Competences

<i>Informatics</i>	MATLAB (Fieldtrip, SPM), Python (MNE), Rstudio, VB, HTML, SPSS. Windows and Linux computer environments, bash scripting, services and policies. Word processing programs, spreadsheets, databases, browsers, network management, multimedia, image and audio processing.
<i>Social</i>	Relational and orientation skills, acquired during working activities. High ability to adapt to different environments, gained through abroad studies.
<i>Technical</i>	Basic competence in electronics, electrical circuits and signal processing.