

PERSONAL INFORMATION

Giulia Cartocci

📍 Rome (Italy)

✉ giulia.cartocci@uniroma1.it

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WORK EXPERIENCE

01/11/2015–31/01/2017

10/07/2017–05/04/2020

10/09/2020–Present

Postdoc fellow

Sapienza University, Rome (Italy)

- management of the European Project SmokeFreeBrain for the Prof. Fabio Babiloni's group: organization and performance of neurometric (EEG, HR and GSR) data collection on a population of over 250 participants among smokers and non-smokers
- Proposals, scientific articles and deliverables preparation and submission in the field of cognitive neuroscience

01/10/2015–Present

Researcher

BrainSigns Ltd, Rome (Italy)

- Research and Development manager. Designing, managing and performance of studies concerning development and clinical applications of the scientific and technological capabilities produced by BrainSigns Ltd, mainly in the cognitive auditory neuroscience area, cognitive neuroscience, neuromarketing and neuroaesthetics

22/06/2015–21/07/2015

Postdoc researcher

Sapienza University, Rome (Italy)

Acquisition and analysis of EEG data, collected on adult and children normal hearing persons and cochlear implant users

03/03/2010–03/09/2010

Research fellow

SISSA, Trieste (Italy)

Preparation and execution of behavioral tests aimed at investigating the reaction to emotional words and pictures in humans

EDUCATION AND TRAINING

01/11/2010–31/10/2013

PhD in Clinical-Experimental Neuroscience

Sapienza University, Rome (Italy)

Pathologies of the auditory system curriculum.

- auditory brainstem responses recordings and analysis
- cortical auditory evoked and event related potentials recordings and analysis
- scientific articles writing and statistical analysis performing

- 3 months visiting student at University of Colorado at Boulder, Brain and Behavior Laboratory (EEG study design, conduction and data analysis)

01/10/2007–15/10/2009 **Master Degree in Neurobiology** 110 cum laude

Sapienza University, Rome (Italy)

- Neurobiology
- Psicobiology
- Neurofarmacology
- Study of the animal behavior

01/10/2003–24/10/2007 **Bachelor Degree in Biology** 110 cum laude

Sapienza University, Rome (Italy)

- Chemistry
- Biology
- Genetics
- Biochemical analysis methods

PERSONAL SKILLS

Mother tongue(s) Italian

Foreign language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
IELTS 6.5					

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills

- Good communication skills acquired during the Master Course in Neurobiology and during the Doctorate Course, and in occasion of meeting and congresses
- Attendance of the "Course on effective communication" (Corso di comunicazione efficace), held by Dott. Damiano Luparia, 4 may 2018, ISSR "Ecclesia Mater", Rome, Italy

Organisational / managerial skills

- As part of the collaboration with BrainSigns Ltd, Project manager of research projects related to the field of Auditory Neuroscience, which included studies with multiple Italian hospitals (eg Gemelli of Roma, San Raffaele of Milan, Policlinico of Bari, Policlinico of Messina, Bambino Gesù of Rome, Santobono of Naples, Monaldi of Naples, Torino Molinette Hospital) and involved about 140 participants, distributed among children and adults, with hearing impairment and normal hearing
- From 2015 to 2018 Project manager of the European project SmokeFreeBrain (lasting 3 years and involving about 250 participants) for the group of the Industrial Neuroscience Laboratory of Prof. Fabio Babiloni of the Sapienza University of Rome
- Tutoring (training and coordination of undergraduate and specialist undergraduate theses), co-supervisor of students of research doctorate courses

Job-related skills

During the post-doctorate and the Doctorate course period, including also a visiting student period at the Colorado University at Boulder, US (2 April 2013 – 2 July 2013) I acquired the following competencies concerning neurophysiological tests on humans:

- Brainstem Auditory Evoked Potentials (ABR o BAEP)
- Intensity Dependence of Auditory Evoked Potentials (IDAP) studies
- Vestibular Evoked Myogenic Potentials (VEMPs)
- Cortical Auditory Evoked Potentials (P1, N1, P2)
- Cortical Auditory Event Related Potentials (P300)
- Collection of EEG data through 19 channels cap and 10 channels frontal EEG band
- Collection of heart rate (HR) data
- Collection of galvanic skin response (GSR) data
- Collection of eye-tracking data

Digital skills

- good command of Microsoft Office tools

Acquired in the framework of the three-years and specialist thesis periods and during the PhD course I acquired the following competencies:

- good command of softwares for stimuli delivery and behavioral data acquisition: E-Prime, Presentation, PsychoPy
- good command of statistical analysis software: Statistics, Statview, SPSS in the use of the main parametric and non-parametric analysis tests
- good command of softwares for the collection of behavioral data: Observer, observational video data; Ethovision, videotracking data; Avisoft, audio data (animal vocalizations)
- good command of softwares for the acquisition and analysis of images of sections subjected to immunohistochemistry: Image J

Other skills

The following skills were acquired during the three-year and specialist thesis period:

- Cell culture, fixation and coloring with Crystal Violet
- Staging and breeding techniques for rodents (mice - outbred and inbred)
- Performing behavioral tests on mice: a) measurement of locomotor and exploration activity: Open field and modified Open field; b) evaluation of short and long term learning and memory performance: Object recognition, Social Recognition and Passive avoidance; c) measurement of the nociceptive threshold: Hot plate; d) recording of ultrasonic vocalizations
- Intraperitoneal administration of pharmacological agents
- Cardiac perfusion
- Histological techniques: cutting of microtome sections; sampling of cerebral areas (e.g. cortex, hippocampus, striatum); free-floating immunohistochemistry with DAB detection method; ELISA sandwich for BDNF

ADDITIONAL INFORMATION

Publications

- Attanasio G, Cartocci G, Covelli E, Ambrosetti E, Martinelli V, Zaccone M, Ponzanetti A, Gueli N, Filipo R, Cacciafesta M. The Mozart effect in patients suffering from tinnitus. *Acta Otolaryngol.* 2012 Nov;132(11):1172-7.
- Cartocci G, Attanasio G, Fattapposta F, Locuratolo N, Mannarelli D, Filipo R. An electrophysiological approach to tinnitus interpretation. *International Tinnitus Journal.* 2012;17(2):152-7
- Scattoni ML, Martire A, Cartocci G, Ferrante A, Ricceri L. Reduced social interaction, behavioural flexibility and BDNF signalling in the BTBR T+tf/J strain, a mouse model of autism. *Behav Brain Res.* 2013 Aug 15;251:35-40.
- Attanasio G, Russo F Y, Roukos R, Covelli E, Cartocci G, Saponara M. Sleep Architecture Variation in Chronic Tinnitus Patients. *Ear Hear.* 2013 Jul-Aug;34(4):503-7.
- Filipo R, Attanasio G, Cagnoni L, Masci E, Russo FY, Cartocci G, Di Mario A, Covelli E. Long-term

results of intratympanic prednisolone injection in patients with idiopathic sudden sensorineural hearing loss *Acta Otolaryngol.* 2013 Sep;133(9):900-4.

- Filippo R, Attanasio G, Russo FY, Cartocci G, Musacchio A, De Carlo A, Roukos R, De Seta E, Di Tillo G, Viccaro M, Sarnacchiaro P, Covelli E. Oral versus Short-Term Intratympanic Prednisolone Therapy for Idiopathic Sudden Hearing Loss. *Otol Neurotol.* 2014;19(4):225-33.
- Cartocci G, Maglione AG, Vecchiato G, Di Flumeri G, Colosimo A, Scorpecci A, Marsella P, Giannantonio S, Malerba P, Borghini G, Aricò P, Babiloni F. Mental workload estimations in unilateral deafened children. *Engineering in Medicine and Biology Society (EMBC), 2015 37th Annual International Conference of the IEEE,* p. 1654-1657.
- Cartocci, G., Cherubino, P., Rossi, D., Modica, E., Maglione, A. G., di Flumeri, G., & Babiloni, F. Gender and Age Related Effects While Watching TV Advertisements: An EEG Study. *Epub 2016 May 26. Comput Intell.*2016;2016:3795325. doi: 10.1155/2016/3795325.
- Cherubino P, Trettel A, Cartocci G, Rossi D, Modica E, Maglione AG, Mancini M, Di Flumeri G, Babiloni F. Neuroelectrical Indexes for the Study of the Efficacy of TV Advertising Stimuli. In *Select Issues of Experimental Economics* (pp. 355-371). Springer International Publishing, 2016
- Cartocci G, Maglione AG, Rossi D, Modica E, Malerba P, Babiloni F. The influence of different cochlear implant features use on the mental workload index during a word in noise recognition task. *International Journal of Bioelectromagnetism Vol. 18, No. 2,* pp. 60 - 66, 2016
- Cherubino P, Cartocci G, Trettel A, Rossi D, Modica E, Maglione A G, Mancini M, Di Flumeri G, Babiloni F. Marketing Meets Neuroscience: Useful Insights for Gender Subgroups During the Observation of TV Ads. *Applying Neuroscience to Business Practice, IGI Global,* chapter 8, p. 163-190, 2016
- Cartocci G, Modica E, Rossi D, Maglione AG, Venuti I, Rossi G, Corsi E, Babiloni F. A Pilot Study on the Neurometric Evaluation of “Effective” and “Ineffective” Antismoking Public Service Announcements., *IEEE presented at the Engineering in Medicine and Biology Society (EMBC), 2016 38th Annual International Conference of the IEEE.* doi: [10.1109/EMBC.2016.7591751](https://doi.org/10.1109/EMBC.2016.7591751)
- Trettel A, Cherubino P, Cartocci G, Rossi D, Modica E, Maglione AG, Di Flumeri G, Babiloni F. Transparency and Reliability in Neuromarketing Research. Chapter in book: *Ethics and Neuromarketing,* pp.101-111, October 2017, DOI: 10.1007/978-3-319-45609-6_6
- MAGLIONE A G, CARTOCCI G, ROSSI D, MODICA E, MALERBA P, BORGHINI G, ARICO' P, DI FLUMERI G, BABILONI F. Cochlear implant features and listening effort induction: measurement of the mental workload experienced during a word in noise recognition task. *Society for Applied Neuroscience Conference 2016, held in Corfu, 6-8 October 2016. Frontiers in Human Neuroscience.* DOI10.3389/conf.fnhum.2016.220.00043. (abstract)
- CARTOCCI G, MAGLIONE A G, MODICA E, ROSSI D, CHERUBINO P, BABILONI F. Against smoking public service announcements, a neurometric evaluation of effectiveness. Presented at the *Society for Applied Neuroscience conference 2016, held in Corfu, 6-8 October 2016. ABSTRACT Frontiers in Human Neuroscience.* DOI: 10.3389/conf.fnhum.2016.220.0009 (abstract)
- Cartocci, G., Maglione, A. G., Modica, E., Rossi, D., Canettieri, P., Combi, M., ... & Verdirosa, R. (2016, September). The “NeuroDante Project”: Neurometric Measurements of Participant’s Reaction to Literary Auditory Stimuli from Dante’s “Divina Commedia”. In *International Workshop on Symbiotic Interaction* (pp. 52-64). Springer, Cham.
- Cartocci, G., Maglione, A. G., Rossi, D., Modica, E., Malerba, P., Borghini, G., ... & Babiloni, F. (2016). Applications in cochlear implants and avionic: examples of how neurometric measurements of the human perception could help the choice of appropriate human-machine interaction solutions beyond behavioral data. *PsychNol. J,* 14(2-3), 117-133
- Borghini, G., Aricò, P., Di Flumeri, G., Cartocci, G., Colosimo, A., Bonelli, S., ... & Pozzi, S. (2017). EEG-based cognitive control behaviour assessment: an ecological study with professional air traffic controllers. *Scientific reports,* 7.
- Pasquale Marsella, Alessandro Scorpecci, Giulia Cartocci, Sara Giannantonio, Anton Giulio Maglione, Isotta Venuti, Ambra Brizi, Fabio Babiloni. EEG activity as an objective measure of cognitive load during effortful listening: a study on pediatric subjects with bilateral, asymmetric sensorineural hearing loss. *International Journal of Pediatric Otorhinolaryngology,* 17 may 2017
- Cartocci, G., Caratù, M., Modica, E., Maglione, A. G., Rossi, D., Cherubino, P., & Babiloni, F. (2017). Electroencephalographic, Heart Rate, and Galvanic Skin Response Assessment for an

Advertising Perception Study: Application to Antismoking Public Service Announcements. *Journal of visualized experiments: JoVE*, (126).

- Giulia Cartocci, Patrizia Cherubino, Enrica Modica, Dario Rossi, Arianna Trettel, Fabio Babiloni. Wine tasting: a neurophysiological measure of taste and olfaction interaction in the experience. *International Journal of Bioelectromagnetism* Vol. 19, No. 1, pp. 18 - 24, 2017
- Cherubino, P., Cartocci, G., Modica, E., Rossi, D., Mancini, M., Trettel, A., & Babiloni, F. (2017, November). Wine Tasting: How Much Is the Contribution of the Olfaction?. In *International Conference on Computational Methods in Experimental Economics* (pp. 199-209). Springer, Cham.
- Enrica Modica, Dario Rossi, Anton Giulio Maglione, Isotta Venuti, Ambra Brizi, Fabio Babiloni, Giulia Cartocci. Neuroelectrical indexes evaluation during antismoking Public Service Announcements on a young population. *IEEE RTSI, 3th International Forum on research and technologies for society and industry*, held in Modena, 11-13 September 2017.
- Dario Rossi, Anton Giulio Maglione, Enrica Modica, Gianluca Di Flumeri, Isotta Venuti, Ambra Brizi, Alfredo Colosimo, Fabio Babiloni, Cartocci G. An eye tracking index for the salience estimation in visual stimuli. *Engineering in Medicine and Biology Society (EMBC), 2017 39th Annual International Conference of the IEEE*
- Dario Rossi, Enrica Modica, Anton Giulio Maglione, Isotta Venuti, Ambra Brizi, Fabio Babiloni, Giulia Cartocci. Visual evaluation of health warning cues in antismoking PSAs images. *IEEE RTSI, 3th International Forum on research and technologies for society and industry*, held in Modena, 11-13 September 2017.
- Giulia Cartocci, Anton Giulio Maglione, Enrica Modica, Dario Rossi, Nicola Quaranta, Maria Zinfolino, Adriana Ardito, Alessia Vozzi, Vincenzo Ronca, Fabio Babiloni. Is the younger the less effortful? An electroencephalographic comparison among consecutive generations of cochlear implant sound processors. *International Journal of Bioelectromagnetism* Vol. 19, No. 1, pp. 11 - 17, 2017
- Maglione, A. G., Cartocci, G., Modica, E., Rossi, D., Colosimo, A., Di Flumeri, G., ... & Quaranta, N. (2017, July). Evaluation of different cochlear implants in unilateral hearing patients during word listening tasks: A brain connectivity study. In *Engineering in Medicine and Biology Society (EMBC), 2017 39th Annual International Conference of the IEEE* (pp. 2470-2473). IEEE
- Cartocci, G., Maglione, A. G., Rossi, D., Modica, E., Borghini, G., Malerba, P., ... & Babiloni, F. (2017, December). Alpha and Theta EEG Variations as Indices of Listening Effort to Be Implemented in Neurofeedback Among Cochlear Implant Users. In *International Workshop on Symbiotic Interaction* (pp. 30-41). Springer, Cham.
- Cartocci, G., Modica, E., Rossi, D., Cherubino, P., Maglione, A. G., Trettel, A., & Babiloni, F. Health promotion through public service announcements: a study of antismoking messages perception among high school students. *FOLIA PALLIATRICA*, 8.
- Giulia Cartocci, Anton Giulio Maglione, Giovanni Vecchiato, Enrica Modica, Dario Rossi, Paolo Malerba, Pasquale Marsella, Alessandro Scorpecci, Sara Giannantonio, Francesco Mosca, Carlo Antonio Leone, Rosa Grassia and Fabio Babiloni. Frontal Brain Asymmetries as Effective Parameters to Assess the Quality of Audiovisual Stimuli Perception in Adult and Young Cochlear Implant Users. *Acta Otorhinolaryngologica Italica*, 2018, 38.4: 346; doi: 10.14639/0392-100X-1407
- Cartocci, G., Modica, E., Rossi, D., Cherubino, P., Maglione, A. G., Colosimo, A., ... & Babiloni, F. (2018). Neurophysiological measures of the perception of antismoking public service announcements among young population. *Frontiers in human neuroscience*, 12.
- Modica, E., Cartocci, G., Rossi, D., Martinez Levy, A. C., Cherubino, P., Maglione, A. G., ... & Di Feo, P. (2018). Neurophysiological Responses to Different Product Experiences. *Computational intelligence and neuroscience*, 2018.
- Modica, E., Rossi, D., Cartocci, G., Perrotta, D., Di Feo, P., Mancini, M., ... & Babiloni, F. (2018). Neurophysiological Profile of Antismoking Campaigns. *Computational intelligence and neuroscience*, 2018.
- Yang, W., Ma, J., Chen, H., Maglione, A. G., Modica, E., Rossi, D., ... & Babiloni, F. (2018). Good news or bad news, which do you want first? The importance of the sequence and organization of information for financial decision-making: A neuro-electrical imaging study. *Frontiers in Human Neuroscience*, 12.
- Piccioni, L. O., Cartocci, G., Maglione, A. G., Modica, E., Rossi, D., Mancini, M., & Babiloni, F.

(2018). EEG variations as estimators of listening effort during recognition of words in noise in unilateral and bilateral sequential adult cochlear implant users. *Journal of Hearing Science*, 8(2).

- Quaranta, N., Zinfullino, M., Casulli, M., Ardito, A., Bartoli, R., Cartocci, G., ... & Babiloni, F. (2018). Listening effort during speech in noise recognition: a neurophysiologic evaluation of consecutive sound processors. *Journal of Hearing Science*, 8(2).
- Martinez-Levy A., Cherubino P., Cartocci G., Modica E., Rossi D., Mancini M., Trettel A., Babiloni F. Gender differences evaluation in charity campaigns perception by measuring neurophysiological signals and behavioural data. *International Journal of Bioelectromagnetism*, 19 (1), 25 – 35
- Cartocci G, Modica E, Rossi D, Inguscio BMS, Aricò P, Martinez Levy A.C., Mancini M, Cherubino P and Babiloni F. Antismoking campaigns perception and gender differences: A comparison among EEG indices, *Computational Intelligence and Neuroscience*, *in press*
- Giulia Cartocci, Alessandro Scorpecci, Gianluca Borghini, Anton Giulio Maglione, Bianca Maria Serena Inguscio, Sara Giannantonio, Andrea Giorgi, Paolo Malerba, Dario Rossi, Enrica Modica, Pietro Aricò, Gianluca Di Flumeri, Pasquale Marsella & Fabio Babiloni. EEG rhythms lateralization patterns in children with unilateral hearing loss are different from the patterns of normal hearing controls during speech-in-noise listening. *Hearing Research* (2019). doi.org/10.1016/j.heares.2019.04.011
- Cherubino, P., Martinez-Levy, A. C., Caratu, M., Cartocci, G., Di Flumeri, G., Modica, E., ... & Trettel, A. (2019). Consumer behaviour through the eyes of neurophysiological measures: State-of-the-art and future trends. *Computational intelligence and neuroscience*.

Honours and awards

- H-WORKLOAD 2020 program committee
- Associate Editor for the Consumer Neuroergonomics section at *Frontiers in Neuroergonomics*
- H-WORKLOAD 2019 program committee
- Winner of the Avvio alla Ricerca 2019 funding from Sapienza University of Rome with the project “LI&TA - Listening and Talking effort assessment in unilateral hearing loss children during an ecological task execution: a neurophysiological study”
- Winner of the Best Paper Award at the Symbiotic Conference 2017, December 18-19, Eindhoven, Netherland
- Winner of a scholarship to participate in the EMBL 2009 Workshop "Translating Behavior: Bridging Clinical and Animal Model Research", Heidelberg 14 -16/11/2009

Presentations

- E-course held at the University of Murcia in the framework of the master on aging occurred on 5/10/2019 and organized by Prof. Maria Trinidad Herrero Ezquerro. Lesson titled “Neurophysiological patterns of auditory sensory processing along the lifespan and in reaction to external events”
- H-WORKLOAD 2019, Sapienza University, 14-15 November 2019, Rome, Italy. “Neurophysiological characterization of normal hearing and unilateral hearing loss children: a comparison among EEG-based indices for information processing and decision-making levels”
- Lesson titled “Leader si nasce o si diventa?” (Born to be or becoming a leader) held at the master in Neuroleadership, CONI, Rome, 28/05/2019
- Oral presentation at Cochlear Science and Research Seminar, Advances in Objective Measures, Antwerp March 28-29, 2019 "Study of EEG patterns in unilateral cochlear implant and normal hearing children in response to emotional musical stimuli characterized by different signal-to-noise ratio levels”
- Oral presentation at SIAF 2011 "Changes in cerebral serotonin activity levels in tinnitus: a study of evoked potentials"
- Participation as a speaker and scientific consultant at the ESOF 2010 science and information event, Turin 2-7 / 7/2010

Conferences

- Cochlear Science and Research Seminar, Advances in Objective Measures, 28-29 March 2019, Antwerp, Belgium
- Workshop “How experience and imagination shape the human brain” – Amir Amedi, 26 ottobre

2018, Aula Odeion, Museo dell'Arte Classica, Università Sapienza, Roma

- Workshop "working memory, education and mental health" – Tracy P. Alloway, 4 luglio 2018, Aula Riunioni del Dipartimento di Psicologia, Università Sapienza, Roma
- Workshop "Cardiocirculatory contribution to anatomical and cognitive changes during ages" – Monica Fabiani, 6/10/2017, Psychology Department, Università Sapienza, Roma
- Workshop "A circuit-based framework: the interaction among different types of cerebral circuits can explain information processing in the brain" – Gabriele Gratton, 6/10/2017, Psychology Department, Università Sapienza, Roma
- Summer school "Pitch, Music and associated pathologies", Lion 9-11/7/2014
- Course "The SME instrument in Horizon2020", Rome 1/7/2015
- Collegium Oto-Rhinolaryngologicum Amicitiae Sacrum (CORLAS) Conference 2012, Rome 26-29/8/2012
- Italian Society of Psychophysiology (SIPF) Conference 2011, Brescia 14-16/11/2011. Abstract and poster at the Workshop SIPF 2011 "Serotonin activity in tinnitus: an Intensity Dependence of Auditory Evoked Potentials (IDAP) study"
- Italian Society of Audiology and Phoniatrics (SIAF) Conference 2011, Bari 5-8/10/2011
- IBRO World Congress of Neuroscience, Firenze 14-18/07/2011. Abstract and poster at the Workshop IBRO 2011 "Change in cerebral serotonin in tinnitus: an Intensity Dependence of Auditory evoked Potentials study"
- Italian Society of Neuropsychology (SINP) Conference 2010, Bologna 7-8/5/ 2010.
- Abstract and poster at the Workshop EMBL 2009 "Translating Behavior: Bridging Clinical and Animal Model Research", Heidelberg 14 -16/11/2009.
- Abstract and poster "Behavioural phenotyping in a mouse model of Autism: recognition of social and non social stimuli" at the Italian Society of NeuroScience Conference SINS 2009.
- Workshop "Autism and related syndromes: research and services in Italy" 16/3/2009.
- Italian Group Neuroendocrin Sciences "Gisne 2009" Conference 23/03/2009.
- CRIN Anniversary Conference Bovet 18/10/2007 "The Growth of Neuroscience since Daniel Bovet's Years".
- Workshop "The new indications for Cochlear Implant", Rome 16/5/2014
- Workshop "How preparing a successful proposal in the EU Research and Innovation framework ("Come presentare una proposta di successo nel Programma Quadro di Ricerca e Innovazione dell'UE"), Rome 21-22/11/2013
- Workshop "Top-down & Bottom-up: auditory plasticity at all ages ", Milan 14-15/11/2013
- VI Residential Course of Paediatric Neurophysiopathology, Milan 18-20/10/2012
- Course "Individual strategy insights for the preparation of an international scientific paper" ("Nozioni di strategie individuale per la stesura di un lavoro scientifico internazionale") 7-8/11/2008.

FIRMATO
GIULIA CARTOCCI