

Personal Information

First Name Antonino
Surname Esposito

Current position

Voluntary researcher at the Consciousness and Cognition Laboratory, headed by Professor Antonino Raffone, at Sapienza University of Rome.

Education

- 2020 Ph.D. in Cognitive Psychology and Science at Sapienza University of Rome.
Thesis: "Perceptual grouping by proximity and orientation bias: Experimental and modelling investigations".
Supervisor: Prof. Antonino Raffone
- 2015 Master's Degree in Neuroscienze Cognitive e Riabilitazione Psicologica, at the faculty of "Medicina e Psicologia" at Sapienza University of Rome.
Thesis: "Categorizzazione e linguaggio in deep neural network".
Supervisor: Prof. Antonino Raffone
Final mark: 110/110 cum laude.
- 2013 Bachelor's Degree in Scienze e Tecniche Psicologiche per l'Analisi e la Valutazione Clinica dei Processi Cognitivi, at the faculty of "Medicina e Psicologia" at Sapienza University of Rome.
Thesis: "Il ruolo della trasmissione antidromica nella plasticità sinaptica".
Supervisor: Prof. Mariateresa Fiorenza
Final mark: 107/110.
- 2010 High School Leaving Qualification in Linguistic Studies at Publio Virgilio Marone High School in Meta (Naples, Italy).
Final mark: 100/100.
- 2010 Goethe – Zertifikat B1 for German language, released by Goethe-Institut.

- 2009 Preliminary English Test (PET) for English language, released by University of Cambridge ESOL Examinations
- 2009 Goethe – Zertifikat A2 for German language, released by Goethe-Institut.
- 2008 Graded Examination in Spoken English (GESE) – Grade 8, released by Trinity College London.

Post-graduation courses and training

- 2019 Visiting student at Katholieke Universiteit (KU) Leuven, in the framework of a joint project with Sapienza University of Rome entitled: "Underlying mechanisms of grouping in visual perception and working memory". Supervisors: Prof. Cees van Leeuwen and Prof. Johan Wagemans.
- 2018 Frontal course on EEG data pre-processing with BrainVision Analyzer 2, held by Dr. Juliana Yordanova and Dr. Vasil Kolev at the Institute of Neurobiology of Bulgarian Academy of Science (BAS). Sofia (Bulgaria).
- 2018 Online course on EEG data processing with BrainVision Analyzer 2, held by Dr. Juliana Yordanova and Dr. Vasil Kolev.
- 2018 Frontal course on R statistical software, held by Prof. Pierpaolo Brutti, Prof. Stefania Gubbiotti, and Prof. Luca Tardella, at the faculty of Statistics at Sapienza University of Rome.
- 2018 Member of the first European Forum on Collective Intelligence (EFCI).
- 2017 Summer school in "Cognitive Architecture" at Cluster of Excellence Cognitive Interaction Technology (CITEC). Bielefeld University (Germany).
- 2017 Summer school "Empathy and Compassion: Contemplative Practices, Neuroscience and Clinical Implications", organized by Prof. Antonino Raffone and Prof. Salvatore Maria Aglioti. Gerace (Reggio Calabria, Italy).
- 2017 Workshop on the software BrainVision Analyzer 2 for EEG data analyses, held

by Gianluca Rubino, scientific consultant at Brain Products GmbH.

- 2017 Frontal course on EEG Cognonics system setup and montage, held by Dr. Federica Mauro at Sapienza University of Rome.
- 2016-2017 Internship at Laboratory of Autonomous Robotics and Artificial Life (LARAL), headed by Dr. Stefano Nolfi, at the Institute of Cognitive Sciences and Technologies (ISTC) - National Counsel of Research (CNR) of Rome.
- 2014 Internship at Laboratory of Psychobiology of Learning and Memory Processes, headed by Professor Vincenzo Cestari, at the Institute of Cellular Biology and Neurobiology - National Counsel of Research (CNR) of Rome. March - July.

Professional experience

- 2020 Member of the local organizing committee for the 8th International Conference on Spatial Cognition (ICSC) - "Cognition and Action in a Plurality of Spaces".
- 2016-2018 Member of the local organizing committee for the 7th International Conference on Spatial Cognition (ICSC) - "Spatial Cognition in a Multimedia and Intercultural World".
- 2018 Member of the local organizing committee for the conference "Meditazione buddhista e neuroscienze".
- 2018 EEG data collection about self-awareness and meditation in an intensive Vipassana retreat, organized by Prof. Antonino Raffone (Sapienza University of Rome) and Prof. Henk Barendregt (Radboud University), and supported Insight Meditation Investigations (IMI) foundation.

Peer reviewer activity

Three manuscripts reviewed for the journal *Cognitive Processing*. IF5 = 1.188 (2019)

Teaching activity

- 2020 Lecture about mindfulness and equanimity for the second-level Professional Master Course "Mindfulness: pratica, clinica e neuroscienze" at Sapienza University of Rome.
- 2019 Lecture about visual imagery and knowledge representation for the course in "Psicologia della cognizione" of the Master's program in "Pedagogia e Scienze dell'educazione e della formazione" at the faculty of "Medicina e Psicologia" at Sapienza University of Rome.
- 2019 Lecture about short- and long-term memory processes for the course in "Psicologia della cognizione" of the Master's program in "Pedagogia e Scienze dell'educazione e della formazione", at the faculty of "Medicina e Psicologia" at Sapienza University of Rome.
- 2019 Lecture about EEG principles and emotional response lateralization for the second-level Professional Master Course "Mindfulness: pratica, clinica e neuroscienze" at Sapienza University of Rome.
- 2018 Lecture about EEG alpha-band prefrontal activity and emotion for the course in "Psicologia della coscienza e della Mindfulness" of the Master's program in "Psicologia applicata ai contesti della salute, del lavoro e giuridico-forense", at the faculty of "Medicina e Psicologia" at Sapienza University of Rome.
- 2018 Lecture about EEG principles and emotional response lateralization for the second-level Professional Master Course "Mindfulness: pratica, clinica e neuroscienze" at Sapienza University of Rome.

Oral presentations

Esposito, A., Simione, L., Raffone, A. (2018). Evaluative coding modulates Affective- Mapping Effect when both S-R valences are task-irrelevant. Poster presented at the conference "Nascita e sviluppo dei Corsi di Laurea in Psicologia alla Sapienza".

Esposito, A. (2018). Theoretical and Practical Impacts of Internetization. Online talk at the European Forum on Collective Intelligence (EFCI).

Esposito, A., Simione, L., Raffone, A. (2017). Effect of linguistic labels on categorization in deep neural networks" at the summer school "Cognitive Architecture. Poster presented at the summer school in "Cognitive Architectures" at Cluster of Excellence Cognitive Interaction Technology (CITEC), Bielefeld University (Germany).

Skills and Competences

Other languages	English (excellent); German (good); French (basic).
Programming languages	Python (excellent); MATLAB (very good); Q-Basic (very good).
EEG analyses	Data preprocessing and artifacts removal (excellent); ERP analysis (very good); power spectral analysis (very good).
Eye tracker	Experiments programming and data analysis with the remote eye-tracking device SMI RED250 mobile (very good)
Software for statistics	R and R-Studio (very good); SPSS (excellent); JASP (excellent).
Other software	Office package (excellent); PsychoPy2/PsychoPy3 (excellent); BrainVision Analyzer 2 (very good).
Other competences	Linux and Unix-like OS (very good).

Research Interests

My main areas of activity concern perception psychology and affective neuroscience. Concerning perception psychology, my interest focuses on the functional and neural mechanisms of perceptual grouping and the interaction with high-level perceptual biases. Concerning affective neuroscience, I am interested in the neural correlates underlying the bidirectional dynamics between emotion processing and cognitive operations such as attention, memory, and decision making. I approach both issues through psychophysical, physiological, and modelling techniques.

Publications

Esposito, A., Simone, L., Calabrese, L., Raffone, A. (2020). Modelling the neurodynamics of memory and emotion: A systematic review of biologically-inspired neural network models. *Cognitive Neurodynamics*. IF5 = 2.777 (2019). Under revision.

Esposito, A., Simone, L., Calabrese, L., Raffone, A. (2020). Understanding the interplay of decision-making and emotion: A systematic review of brain-inspired neural network models. *Cognitive Computation*. IF5 = 3.805 (2018). Submitted.

Esposito, A., Chiarella, S., G., Nikolaev, A., Raffone, A., van Leeuwen, C. (2020). Perceptual bias and context effects in visually ambiguous stimuli. *Journal of Vision*. IF = 2.145 (2019). In preparation.

Esposito, A., Simione, L., Calabrese, L., Raffone, A. The mechanisms of interacting attention and emotion: A systematic review of neurocomputational models. In preparation.