

# SUSANNA CORDONE

## **EDUCATION**

2020 National Scientific Qualification for Associate Professor in the recruitment field 11/E1  
“General psychology, psychobiology and psychometry”

2017 Qualification to practice the profession of Psychologist and enrollment in the Register of Psychologists of Lazio Region

2013 Ph.D. in “Psychology, Psychophysiology and Personality” at the University of Rome “Sapienza”. Thesis title: “*Wakefulness and sleep EEG topography in Mild Cognitive Impairment and Alzheimer’s Disease patients*”. Tutor: Prof. Luigi De Gennaro.

2009 University Degree in “Diagnosis and Rehabilitation of cognitive disturbances” at the University of Rome “Sapienza”. Thesis title: “*Sleep EEG topography in depressed patients subjected to rTMS treatment*”. Tutor: Prof. Luigi De Gennaro.

2007-2008 Pre-graduate internship at the laboratory of Neuropsychology and Neurophysiology IRCCS Hospital San Giovanni di Dio Fatebenefratelli of Brescia. Scientific Director: Prof. Carlo Miniussi. Participation in laboratory activities with depressed patients and Alzheimer’s Disease patients (neuropsychological evaluation, sleep and resting state EEG recordings and data analysis, rTMS administration).

2006 Three-years Degree in “Science and psychological techniques for the analysis of normal and pathological cognitive processes” at the University of Rome “Sapienza”. Thesis title: “*Oculomotor variations during sleep deprivation*”. Tutor: Prof. Luigi De Gennaro

2005-2006 Pre-graduate internship at the laboratory of Sleep at the University of Rome “Sapienza”, directed by Prof. Luigi De Gennaro. Participation in laboratory activities on sleep research, acquisition of skills for EEG recording and EEG data analysis.

2000 Language high school diploma

Excellent knowledge of written and spoken English.

## **RESEARCH EXPERIENCE**

2018-2019: Research Fellow at the Department of “Psychology of the development and socialization processes”; University of Rome “Sapienza”. Research project: “*Social and cognitive processes on the use of doping and cognitive enhancers*”. Scientific Director: Prof. Fabio Lucidi.

2016 -2018: Research Fellow at the Department of Physiology and Pharmacology “V.Erspamer”, University of Rome “Sapienza”. Research project: “*EEG topographical markers for the evaluation of neurophysiological frailty in Alzheimer’s disease*”. Scientific Director: Prof. Claudio Babiloni.

2015-2016: Psychological consultant for EEG and neuropsychological data analysis in patients with cognitive decline; University of Bari “Aldo Moro”. Activities: Evaluation of telemonitoring phases in the neuropsychological and neurophysiological fields, with particular reference to EEG procedures and assessment of cognitive functions in Alzheimer’s disease.

2013 -2015: Contract work at the University of Foggia. Activities: mathematical classification of instrumental and psychometric indices detected in subjects with mild cognitive decline or Alzheimer's disease. Scientific Director: Prof. Claudio Babiloni

2009-2013: Ph.D. student in “Psychology, Psychophysiology and Personality” at the University of Rome “Sapienza”. Thesis title: “*Wake and sleep EEG topography in Mild Cognitive Impairment and Alzheimer’s Disease patients*”. Tutor: Prof. Luigi De Gennaro.

2009-2013: Contract work at the polyclinic “A. Gemelli” (Rome) for recording and data analysis of wakefulness and sleep EEG in patients with sleep disturbances.

## **TEACHING EXPERIENCE**

2023: Associate Professor at “UniCamillus” International Medical University in Rome

2022: Professor at Tor Vergata University, *Psicologia Generale e Cognitiva* (SSD: M-PSI/01)

From 2021: Professor at UniCamillus University

Specialization Course and Training for obtaining specialization in educational support activities for students with disabilities (TFA): Developmental Psychology, Education, and Instruction: Learning Models for Secondary Education (SSD: M-PSI/04); Integrated Models of Psycho-Educational Intervention for Intellectual Disability and Pervasive Developmental Disorders (SSD: M-PSI/04)

Bachelor's Degree Course in Radiological Techniques (in English): Clinical Psychology and Group Dynamics (SSD: M-PSI/01)

Bachelor's Degree Course in Dentistry (in English): General Psychology (SSD: M-PSI/01)

Bachelor's Degree Course in Nursing Sciences (in English): General Psychology (SSD: M-PSI/01)

Supervisor and member of the committee for master's level theses in "Epidemiology and Telemedicine 4.0."

2018-2019: Teaching position at CONI in “Tiro Dinamico” advanced course (brain electrophysiological activity and psychology of emotions)

2016-2017: participation in the examination committee and cooperation in didactic activities to the chair of Psychophysiology and Psychobiology (Prof. Luigi De Gennaro)

2014: participation in the examination committee and cooperation in didactic modules of “Method and scientific research in Psychology” (Prof. Luigi De Gennaro)

## CONFERENCES / TALKS

- Speaker at the XIV Annual meeting of Italian Society of Sleep Research (SIRS). Bologna, 2009 (p. 22). Pellicciari M.C., Marzano C., Pirulli C., Cordone S., Miniussi C., De Gennaro L. “Sleep EEG topography in depressed patients treated with rTMS”.
- Speaker at the XVII Annual meeting of Italian Society of Sleep Research (SIRS). Bologna, 2012 (p. 20). Cordone S., Della Marca G., Truglia I., Moroni F., Marzano C., Ferrara M., Rossini P.M., De Gennaro L. “Topographic alterations of wakefulness and sleep EEG in Alzheimer’s disease: preliminary results”
- Speaker at the XVIII Annual meeting of Italian Society of Sleep Research (SIRS). Rome, 2013 (p. 16). Cordone S., Truglia I., Della Marca G., Moroni F., Marzano C., Ferrara M., Rossini P. M., De Gennaro L. “Topographic alterations of wakefulness and sleep EEG in Alzheimer’s disease and Mild Cognitive Impairment: preliminary results”
- Speaker at the annual meeting of Italian Association of Sleep Medicine (AIMS) for “Young Researcher” session
- Speaker at the 15th European Congress on Clinical Neurophysiology; ECCN Brno, Czech Republic, 2015. Cordone S et al. “Auditory oddball event-related potentials cortical sources are related to cerebrospinal fluid (csf)  $\beta$  amyloid ( $a\beta$ ) level in amnesic mci subjects. Neurological and psychiatric diseases”.
- Speaker at Alzheimer’s Association International Conference (AAIC), London, 2017. Cordone et al. “Prevention of mental disorders in seniors at risk of Alzheimer’s disease in the smart health project: the SMARTAGING platform”.

## NATIONAL AND INTERNATIONAL COOPERATIONS

- INTERNATIONAL Call and Sponsor: EUROPEAN COMMISSION 7TH FRAMEWORK PROGRAMME IMI Call topic: IMI\_Call\_2008\_1\_11: Neurodegenerative Disorders IMI-1 Joint Undertaking. Project title: “*Prediction of cognitive properties of new drug candidates for neurodegenerative diseases in early clinical development*” (PHARMA-COG; www.pharmacog.org). Project duration: 72 months (2010-2015) Applicant: Dr Jill Richardson, GlaxoSmithKline (UK). **Position:** Project manager of workpages 1 e 5 (EEG power spectra analysis in elderly, MCI and Alzheimer’s disease patients)
- ITALIAN Call and Sponsor: GRANT FOR YOUNG RESEARCHERS OF ITALIAN MINISTRY OF HEALTH Grant Agreement: GR-2008-1143091. Project title: “*Prediction of cognitive decline in mild cognitive impairment (MCI) subjects carrying genetic risk factors based on quantitative EEG and transcranial magnetic stimulation markers*”. Project duration: 48 months (2012-2015) Applicant: Dr. Fabrizio Vecchio, IRCCS Hospital Oasi Maria SS of Troina, Enna (Italy). **Activities:** data analysis of EEG coherence.
- Agreement: 6573. Project title: “*SMART HEALTH 2.0 (SH2.0)*”. Project duration: 48 months (2012-2015) Applicant: Dr. Marco Scandelin, Noemalife, s.r.l. (Italy). **Position:** consultant for lifestyles monitoring to prevent “frailty” related to aging processes through the use of innovative technological infrastructures.

- INTERNATIONAL HORIZON 2020, H2020-MSCA-ITN-2016 (Marie Skłodowska-Curie Innovative Training Networks; MSCA-ITN-ETN) Grant Agreement: 721281. Project title: “*Blood Biomarker-based Diagnostic Tools for Early Stage Alzheimer’s Disease (BBDiag)*” Project duration: 48 months (2017-2020) Applicant: Prof. Genhua Pan (University of Plymouth, UK). **Position:** development of information technologies for the evaluation and monitoring of cognitive functions and lifestyles in elderly at high risk of developing Alzheimer’s Disease.
- 2011 - prot. C26A11JFJ9 Applicant: Prof. Luigi De Gennaro, University of Rome “Sapienza”. Project title: *Cortical topography alterations of wakefulness and sleep EEG in MCI patients as neurophysiological markers for pre-clinical identification of dementia*”. Activities: EEG recording and data analysis.
- 2012 - prot. C26A1254AT Applicant: Prof. Luigi De Gennaro University of Rome “Sapienza”. Project title: “*Efficacy of oscillatory stimulation with tDCS in inducing synchronization of EEG frequencies*”. Activities: EEG recording and data analysis.
- ITALIAN Call and Sponsor: ANNUAL STRATEGIC PROGRAM OF ITALIAN MINISTRY OF HEALTH Grant Agreement: RF-2010-2319722. Project title: “*Italian network for autosomal dominant Alzheimer’s disease and frontotemporal lobar degeneration (Italian DIANf)*” Project duration: 48 months (2013-2016) Applicant: Prof. Giovanni Frisoni, IRCCS Hospital S. San Giovanni di Dio Fatebenefratelli of Brescia (Italy). **Activities:** contribution for the development of computerized cognitive training for Alzheimer’s disease patients.
- ITALIAN Call and Sponsor: GRANT FOR YOUNG RESEARCHERS OF ITALIAN MINISTRY OF HEALTH, 2008 Ministero della Salute – Direzione Generale della Ricerca Scientifica e Tecnologica Grant Agreement: GR-2008-1143090. Project title: “*Does rehabilitation with a 10-Hz sensory stimulation improve brain rhythms and cognitive-motor performance in neurological patients? Towards Internet-based clinical applications at subjects (10-Hz rehabilitation)*”. Project duration: 48 months (2012-2015) Applicant: Dr. Claudio Del Percio, IRCCS Hospital San Raffaele Pisana of Rome (Italy). **Activities:** responsible for evaluation and statistical data analysis of motor-cognitive performances.
- ITALIAN Call and Sponsor: Line 4.1.1.1 del POR FESR Sicilia 2007-2013, Regional Operative Program of MIUR (POR) of the Italian Regione Sicilia Grant Agreement: Progetto 1468. Project title: “*Virtual Environment for a Superior neuro-Psichiatry (VESPA)*”. Applicant: Dr. Marco Pappalardo (Software engineering, Catania, Italy). Project duration: 36 months (2014-2016). **Activities:** data analysis and statistics of standard cognitive batteries and virtual reality in patients with Alzheimer’s disease, mental retardation and language specific disease.
- ITALIAN Call and Sponsor: ANNUAL STRATEGIC PROGRAM OF ITALIAN MINISTRY OF HEALTH Grant Agreement: RF-2010-2319113. Project title: “*GRID-based System for the Evaluation of the effects of Cognitive Rehabilitation in Patients with Alzheimer’s disease and Parkinson’s Disease (GRIDCORE)*”. Project duration: 48 months (2013-2016) Applicant: Prof. Claudio Babiloni, IRCCS Hospital S. Raffaele Pisana, Rome (Italy). **Activities:** cortical sources analysis of resting state EEG rhythms in AD/ADMCI and PD/PDMCI patients.

- ITALIAN Sponsor: Viiv Healthcare Italia. Project title: “*Brainwaves in HIV (EEG-HIV)*” Applicant for research contract: Prof. Massimo Andreoni (University of Rome “Tor Vergata”). Project duration: 24 months (2014-2015). **Activities:** EEG data analysis and administration of neuropsychological batteries for the assessment of cognitive function in HIV patients; contribution to the related scientific manuscripts.
- INTERNATIONAL Sponsor: MENTISCURA Medical Device (<https://www.mentiscura.com/>). Project title: “*MENTISCURA TOOL*”. Applicant: Prof. Claudio Babiloni, University of Rome “La Sapienza” (Italy) Project duration: 48 months (2016-2017). **Activities:** EEG data analysis in Alzheimer’s disease patients.
- INTERNATIONAL Sponsor: Altoida Medical Device (AMD; [www.altoida.com](http://www.altoida.com)). Project title: “*Dementia Early Screening and Disease Progression Tracking in the clinical practice by means of ALTOIDA Augmented Reality MedTech (ALTOIDA AR)*”. Applicant: Prof. Claudio Babiloni, University of Rome “La Sapienza” (Italy) Project duration: 36 months (2017-2019). **Activities:** contribution to the development of information technologies for assessing and monitoring cognitive functions and lifestyles in elderly at high risk of Alzheimer’s disease

## **EDITORIAL BOARDS**

- Frontiers in Neurology and Frontiers in Psychiatry
- "CPQ Neurology and Psychology"
- "Journal of Nervous System and Psychiatry"
- "Clinical Case Reports Journal"
- "Researches In Neurology & Neurosurgeon"

## **AWARDS AND HONOURS**

- European Sleep Research Society (ESRS), 2014: Winner of Travel grant at the sleep laboratory of Psychiatry and Psychotherapy Clinic in Freiburg (Germany) Friburgo (Scientific director: Prof. Dieter Riemann)
- Sleep Medicine Italian Association (AIMS, 2013): Winner of “Young Researcher” symposium

## PUBLICATIONS

- 1) **S.Cordone**, M. Gorgoni, L. De Gennaro. “**Sleep-based interventions in Alzheimer’s disease: promising approaches from prevention to treatment across the disease trajectory**”. *J. Pharmaceuticals*.
- 2) A. D’Atri, S. Scarpelli, M. Gorgoni, I. Truglia, G. Lauri, **S. Cordone**, M. Ferrara, C. Marra, P.M. Rossini, L. De Gennaro. “**EEG alterations during wake and sleep in mild cognitive impairment and Alzheimer’s disease**”. *iScience*. 2021; 24:4
- 3) M. Gorgoni, S. Scarpelli, V. Alfonsi, L. Annarumma, **S. Cordone**, S. Stravolo, L. De Gennaro. “**Pandemic Dreams: quantitative and qualitative features of the oneiric activity during he lockdown due to COVID-19 in Italy**”. *Sleep Medicine*. 2021  
<http://dx.doi.org/10.1016/j.sm.2021.03.007>
- 4) **S. Cordone**, L. De Gennaro. **Insights from human sleep research on neural mechanisms of Alzheimer’s disease**. *Neural Regen Res*. 2020. 15(7):1251-1252.
- 5) **S.Cordone**, L. Annarumma, P.M. Rossini, L. De Gennaro (2019). **Sleep and  $\beta$  amyloid deposition in Alzheimer Disease: insights on mechanisms and possible innovative treatments**. *Frontiers in Pharmacology*. 2019; 10:695.
- 6) A. Chirico, D. Fegatelli, F. Galli, L. Mallia, F. Alivernini, **S. Cordone**, F. Giancamilli, S. Pecci, G.M. Tosi, A. Giordano, F. Lucidi, M. Massaro. **A study of quiet eye’s phenomenon in the shooting section of “laser run” of modern pentathlon**. *J Cell Physiol*. 2019; 234(6):9247-9254
- 7) L. De Gennaro, M. Gorgoni, F. Reda, G. Lauri, I. Truglia, **S. Cordone**, S. Scarpelli, A. Mangiaruga, A. D’Atri, G. Lacidogna, M. Ferrara, C. Marra, PM. Rossini. **The Fall of Sleep K-Complex in Alzheimer Disease**. *Sci Rep*. 2017 Jan 3;7:39688. doi: 10.1038/srep39688.
- 8) S.M. López, R. Bohórquez, **S. Cordone**, I. Checa. “**L’Eliaana: school of values**”. **A program of transmission of values through sport**. *Revista de Psicología del Deporte/Journal of Sport Psychology (2017) Volume 27, Supplement 3, 60-64*.
- 9) M. Gorgoni, G. Lauri, I. Truglia, **S. Cordone**, S. Sarasso, S. Scarpelli, A. Mangiaruga, A. D’Atri, D. Tempesta, M. Ferrara, C. Marra, PM. Rossini, L. De Gennaro. **Parietal Fast Sleep Spindle Density Decrease in Alzheimer’s Disease and Amnesic Mild Cognitive Impairment**. *Neural Plast*. 2016;2016:8376108. Epub 2016 Mar 15.

- 10) C. Babiloni, A. Pennica, P. Capotosto, P. Onorati, C. Muratori, S. Ferracuti, P. Roma, V. Correr, E. Piccinni, G. Noce, C. Del Percio, **S. Cordone**, C. Limatola, A. Soricelli, F. Di Campli, L. Gianserra, L. Ciullini, A. Aceti, M. Viscione, E. Teti, L. Sarmati, M. Andreoni. **Brain and cognitive functions in two groups of naïve HIV patients selected for a different plan of antiretroviral therapy: A qEEG study.** *Clin Neurophysiol.* 2016 Nov;127(11):3455-3469.
- 11) C. Babiloni, N. Marzano, A. Soricelli, **S. Cordone**, J.C. Millàn-Calenti, C. Del Percio, A. Bujàn. **Cortical neural synchronization underlies primary visual consciousness of Qualia: evidence from Event-Related Potentials.** *Front Hum Neurosci.* 2016 Jun 30;10:310.
- 12) C. Babiloni, A. Pennica, C. Del Percio, . Noce, **S. Cordone**, S. Lopez, K. Berry, C. Muratori, S. Ferracuti, P. Roma, V. Correr, F. Di Campli, L. Gianserra, L. Ciullini, A. Aceti, A. Soricelli, E. Teti, M. Viscione, C. Limatola, P. Onorati, P. Capotosto, M. Andreoni. **Antiretroviral therapy affects the z-score index of deviant cortical EEG rhythms in naïve HIV individuals.** *Neuroimage Clin.* 2016 Jun 8;12:144-56.
- 13) C. Babiloni, I. Triggiani A, R. Lizio, **S. Cordone**, G. Tattoli, V. Bevilacqua, A. Soricelli, R. Ferri, F. Nobili, L. Gesualdo, J.C. Millán-Calenti, A. Buján, R. Tortelli, V. Cardinali, MR. Barulli, A. Giannini, P. Spagnolo, S. Armenise, G. Buena, G. Scianatico, G. Logroscino, GB. Frisoni, C. Del Percio. **Classification of Single Normal and Alzheimer's Disease Individuals from Cortical Sources of Resting State EEG Rhythms.** *Front Neurosci.* 2016 Feb 23;10:47
- 14) C. Babiloni, A. Pennica, C. Del Percio, G. Noce, **S. Cordone**, C. Muratori, S. Ferracuti, N. Donato , F. Di Campli, L. Gianserra, E. Teti, A. Aceti, A. Soricelli, M. Viscione, C. Limatola, M. Andreoni, P. Onorati. **Abnormal cortical sources of resting state electroencephalographic rhythms in single treatment-naïve HIV individuals: A statistical z-score index.** *Clin Neurophysiol.* 2016 Mar;127(3):1803-12
- 15) R. Lizio, C. Del Percio, N. Marzano, A. Soricelli, GG. Yener, E Başar, C Mundi, S. De Rosa, A.I. Triggiani, R. Ferri, D. Arnaldi, F. Nobili, **S. Cordone**, S. Lopez, F. Carducci, G. Santi, L. Gesualdo, P.M. Rossini, E. Cavedo, M. Mauri, G.B. Frisoni, C. Babiloni. **Neurophysiological Assessment of Alzheimer's Disease Individuals by a Single Electroencephalographic Marker.** *J Alzheimers Dis.* 2015 Sep 28;49(1):159-77.
- 16) C. Babiloni, R. Lizio, N. Marzano, P. Capotosto, A. Soricelli, I. Triggiani, **S. Cordone**, L. Gesualdo, C. Del Percio. **Brain neural synchronization and functional coupling in Alzheimer's disease as revealed by resting state EEG rhythms.** *International journal of psychophysiology: official journal of the International Organization of Psychophysiology* 02/2015.

- 17) S. Galluzzi, M. Marizzoni, C. Babiloni, D. Albani, L. Antelmi, C. Bagnoli, D. Bartres-Faz, **S. Cordone**, M. Didic, L. Farotti, U. Fiedler, G. Forloni, N. Girtler N, T. Hensch, J. Jovicich, A. Leeuwis, C. Marra, JL. Molinuevo, F. Nobili, J. Pariente, L. Parnetti, P. Payoux, C. Del Percio, JP. Ranjeva, E. Rolandi, PM. Rossini, P. Schönknecht, A. Soricelli, M. Tsolaki, P. Visser, J. Wiltfang, JC. Richardson, R. Bordet, O. Blin, GB. Frisoni; PharmaCog Consortium. **Clinical and biomarker profiling of prodromal Alzheimer's disease in workpackage 5 of the Innovative Medicines Initiative PharmaCog project: a 'European ADNI study'**. *J Intern Med.* 2016 Jun;279(6):576-91.
- 18) C. Babiloni, C. Del Percio, N. Marzano, G. Noce, **S. Cordone**, C. Bagnoli, PM Rossini, A. Soricelli, F. Nobili, D. Bartrés-Faz, B. Mueller, M. Tsolaki, L. Parnetti, U. Hegerl, T. Hensch, J. Dukar, A. Bertolino, G. Forloni, J. Richardson, G. Frisoni. **Frontal cortical sources of auditory oddball event-related potentials are related to cerebrospinal fluid  $\beta$  amyloid in amnesic MCI subjects** *Alzheimer's and Dementia* 07/2014; 10(4):P383.
- 19) C. Babiloni, C. Del Percio, N. Marzano, G. Noce, **S. Cordone**, C. Bagnoli, PM Rossini, A. Soricelli, F. Nobili, D. Bartrés-Faz, B. Mueller, M. Tsolaki, L. Parnetti, U. Hegerl, T. Hensch, J. Dukart, A. Bertolino, G. Forloni, J. Richardson, G. Frisoni. **Cortical sources of resting state eyes closed eeg rhythms are correlated to cerebrospinal fluid  $\beta$  amyloid in amnesic MCI subjects** *Alzheimer's and Dementia* 07/2014; 10(4):P382-P383.
- 20) L. De Gennaro, **S. Cordone**, I. Truglia, G. Della Marca, F. Moroni, C. Marzano, M. Ferrara, P.M. Rossini. **EEG topography of sleep and wakefulness in patients with Mild Cognitive Impairment and Alzheimer Disease: Preliminary data.** *Clinical Neurophysiology* 11/2013; 124(11):e202-e203.
- 21) G. Della Marca, A. Losurdo, **S. Cordone**, F. Pilato, P. Profice, E. Testani, V. Di Lazzaro. **Teaching NeuroImages: Awakening ptosis (unilateral hypnopompic eyelid palsy).** *Neurology* 09/2013; 81(10):e71-2.
- 22) MC. Pellicciari, **S. Cordone**, C. Marzano, S. Bignotti, A. Gazzoli, C. Miniussi, L. De Gennaro **Dorsolateral prefrontal transcranial magnetic stimulation in patients with major depression locally affects alpha power of REM sleep.** *Frontiers in Human Neuroscience* 08/2013; 7:433.

*S. Cordone*