

Elias Paolo Casula, PhD

Curriculum Vitae

ACADEMIC POSITIONS

Start	End	Institution	Position
01/2023	ongoing	Dept. of System Medicine, Tor Vergata Univ. (Rome)	PNRR PI (RTD-A)
06/2022	01/2023	Dept. of Psychology, La Sapienza University (Rome)	Be-for-ERC PI
02/2021	06/2022	Santa Lucia Foundation, Rome	Post-doc Researcher
05/2012	10/2022	Dept. of Psychology, University of Padua	Adjunct Professor
01/2019	01/2021	Institute of Neurology, University College London	MSCA PI
01/2020	07/2020	Dept. of Neuroscience, LDM University (Rome)	Adjunct Professor
01/2015	01/2019	Santa Lucia Foundation, Rome	Researcher

ACADEMIC ROLES

Start	End	Institution	Position
10/2024	ongoing	Dept. of System Medicine, Tor Vergata Univ. (Rome)	Head of the Committee
02/2024	ongoing	Dept. of System Medicine, Tor Vergata Univ. (Rome)	UAFP Manager

EDUCATION

Type	Year	Institution	Grade
Master in Biostatistics	2025	University La Sapienza	Master
PhD	2015	University of Padua	PhD
MSc. Neuroscience	2012	University of Padua	110 cum laude
BSc. Psychology	2011	University of Cagliari	110

NATIONAL SCIENTIFIC QUALIFICATIONS

Year	Title	SSD
2021	Associate Professor	11/E1 Psychobiology, Psychometrics, General Psychology
2021	Associate Professor	05/D1 Physiology

TEACHING EXPERIENCE

Academic

Year	Institution	Course	Hours
2025	University of Tor Vergata	Psychometrics	72 hours
2024	University of Tor Vergata	Physiological Psychology Lab	30 hours
2024	University of Tor Vergata	Psychometrics Lab	30 hours
2023	University of Tor Vergata	Psychometrics	72 hours
2022	University of Padua	Methodology of TMS	20 hours
2021	University of Padua	Methodology and physiology of TMS	20 hours
2020	Lorenzo De Medici University	Neuroscience	60 hours
2020	University of Padua	Methodology and physiology of TMS	20 hours
2019	University of Padua	Transcranial Magnetic Stimulation	20 hours
2018	University of Padua	Methodology and physiology of TMS	20 hours
2017	University of Padua	Methodology and physiology of TMS	40 hours
2017	University of Tor Vergata	Methodology of Research	20 hours
2016	University of Padua	Transcranial Magnetic Stimulation	20 hours
2016	University of Tor Vergata	Methodology of Research	20 hours
2015	University of Padua	Methodology and physiology of TMS	20 hours
2014	University of Padua	Methodology and physiology of TMS	20 hours
2014	University of Padua	Neuropsychology of Aging	10 hours

Non-academic

Year	Institution	Course	Hours
2025	Temple University Neocortex srl	Advanced Biostatistics	48 hours

2022	Temple University Neocortex srl	Advanced Statistics	120 hours
2022	Temple University Neocortex srl	Basic Statistics	120 hours
2021	Temple University Neocortex srl	Advanced Statistics	60 hours
2021	Temple University Neocortex srl	Basic Statistics	60 hours
2020	Temple University Neocortex srl	Advanced Statistics	60 hours
2020	Temple University Neocortex srl	Basic Statistics	60 hours

GRANTS WON AS PRINCIPAL INVESTIGATOR

Year	Grant	Founded by	Amount
2023	PNRR Young Researchers	Italian Ministry of University	195'000 €
2021	Be-for-ERC	European Commission	50'000 €
2018	Marie Skłodowska Curie Action	European Commission	183'454.80 €
2012	Master and Back	European Commission	47'052.70 €

GRANTS WON AS COLLABORATOR OR SCIENTIFIC MANAGER

Year	Grant	Amount
2020	Alzheimer's Disease Drug Foundation (ADDF)	1'959'841 \$
2019	BrightFocus Foundation USA	190'000 \$
2016	Giovani Ricercatori – Ministero della Salute	272'508 €
2015	Alzheimer's Disease Drug Foundation (ADDF)	250'000 \$
2014	Ricerca Finalizzata – Ministero della Salute	318'800 €

AWARDS

Year	Award	Amount
2024	Travel Award, International Congress Clinical Neurophysiology (ICCN) 2024	750 \$
2017	Cover artwork, Clinical Neurophysiology Journal Vol. 128	-
2016	Best Poster, 6th International Congress of Transcranial Stimulation	500 \$
2014	Best Presentation, 1st Cognitive Science Arena	500 €

RESEARCH ACTIVITY

Keywords

Neuroscience, Physiology, Data analysis, Brain Stimulation, Electroencephalography

Brief description

Investigation of brain dynamics (excitability, connectivity, plasticity) underlying cognition in the healthy and pathological brain by means of non-invasive brain stimulation (TMS, tDCS, tACS) with simultaneous electroencephalography (EEG) and electromyography (EMG). Strong expertise in advanced statistics applied in psychological and biomedical sciences.

SUMMARY OF SCIENTIFIC PRODUCTION

Papers	59
Book Chapters	2
Total Citations	3414 (Scholar), 2525 (Scopus)
Average Impact Factor	6.15
Hirsch (H) index	30

SELECTED SCIENTIFIC PAPERS

Title: Multivariate empirical mode decomposition reveals markers of Alzheimer's Disease in the oscillatory response to transcranial magnetic stimulation

Authors: Casula EP, Bernardi D, Rocchi L, Fadiga L, Koch G, Papo D

Reference data: June 2025

Journal: Clinical Neurophysiology

IF (year of publication): 3.7

DOI: <https://doi.org/10.1016/j.clinph.2025.2110756>

Title: Effects of 52 weeks of precuneus rTMS in Alzheimer's disease patients: a randomized trial

Authors: Koch G, Casula EP, Bonni S, Borghi I, Assogna M, Di Lorenzo F, Esposito R, Maiella M, D'Acunto A, Ferraresi M, Mencarelli L, Pezzopane V, Motta C, Santarnecchi E, Bozzali M, Martorana A

Reference data: April 2025

Journal: Alzheimer's Research & Therapy

IF (year of publication): 8.0

DOI: <https://doi.org/10.1186/s13195-025-01709-7>

Title: Surface EEG evidence for cerebellar control of distal upper limbs in humans

Authors: Latorre A, Humaidan K, Sanna M, Lavena ML, Pittalis S, Raimondi C, Casula EP, Rocchi L

Reference data: April 2025

Journal: Brain Sciences

IF (year of publication): 2.7

DOI: <https://doi.org/10.3390/brainsci15050440>

Title: Trend-analysis reveals real and placebo rtms effects on addiction craving: a case-control observational study

Authors: Casula EP, Chieco F, Papaioannou MM, Frizzarin F, Rocchi L, Camporese A

Reference data: March 2025

Journal: Frontiers in Psychiatry

IF (year of publication): 3.2

DOI: <https://doi.org/10.3389/fpsyt.2024.1441815>

Title: Association of TMS-EEG interhemispheric imbalance with upper limb motor impairment in chronic stroke patients: An exploratory study

Authors: Martino Cinnera A, Casula EP, Pezzopane V, D'Acunto A, Maiella M, Bonni S, Ferraresi M, Guacci M, Tramontano M, Iosa M, Paolucci S, Morone G, Vannozzi G, Koch G

Reference data: March 2025

Journal: Clinical Neurophysiology

IF (year of publication): 3.7

DOI: <https://doi.org/10.1016/j.clinph.2024.12.027>

Title: Transcallosal connections of face and hand representation areas in the primary motor cortex: a transcranial magnetic stimulation and transcranial magnetic stimulation–electroencephalography study

Authors: Casula EP, Ginatempo F, Soggia G, Loi N, Zeroual M, Deriu F

Reference data: Feb 2025

Journal: Journal of Physiology

IF (year of publication): 5.5

DOI: <https://doi.org/10.1113/JP286473>

Title: Real-time cortical dynamics during motor inhibition

Authors: Casula EP, Pezzopane V, Roncaioli A, Battaglini L, Rumiatì R, Rothwell JC, Rocchi L, Koch G

Reference data: Dic 2024

Journal: Scientific Reports

IF (year of publication): 4.6

DOI: <https://doi.org/10.1038/s41598-024-57602-0>

Title: The emerging field of non-invasive brain stimulation in Alzheimer's Disease

Authors: Koch G, Altomare D, Benussi A, Bréchet L, Casula EP, Dodich A, Pievani M, Santarnecchi E, Frisoni GB

Reference data: Dic 2024

Journal: Brain

IF (year of publication): 11.9

DOI: <https://doi.org/10.1093/brain/awae292>

Title: The cerebellum and the motor cortex: Multiple networks controlling multiple aspects of behavior

Authors: Spampinato DA, Casula EP, Koch G

Reference data: Dic 2024

Journal: The Neuroscientist

IF (year of publication): 7.5

DOI: <https://doi.org/10.1177/10738584231189435>

Title: Reduced TMS-evoked EEG oscillatory activity in cortical motor regions in patients with post-COVID fatigue

Authors: Casula EP, Esposito R, Dezi S, Ortelli P, Sebastianelli L, Ferrazzoli D, Saltuari L, Pezzopane V, Borghi I, Rocchi L, Ajello V, Trinka E, Oliviero A, Koch G, Versace V

Reference data: Sep 2024
Journal: Clinical Neurophysiology
IF (year of publication): 3.7
DOI: [https://doi.org/ 10.1016/j.clinph.2024.06.008](https://doi.org/10.1016/j.clinph.2024.06.008)

Title: Breakdown of TMS-evoked EEG signal propagation within the default mode network in Alzheimer's disease
Authors: Maiella M, Mencarelli L, Casula EP, Borghi I, Assogna M, Di Lorenzo F, Bonni S, Pezzopane V, Martorana A, Koch G
Reference data: Nov 2024
Journal: Clinical Neurophysiology
IF (year of publication): 3.7
DOI: <https://doi.org/10.1016/j.clinph.2024.09.007>

Title: Changes in Cortical Activation by Transcranial Magnetic Stimulation Due to Coil Rotation Are Not Attributable to Cranial Muscle Activation
Authors: Mancuso M, Cruciani C, Sveva V, Casula EP, Brown K, Di Lazzaro V, Rothwell JC, Rocchi L
Reference data: Mar 2024
Journal: Brain Sciences
IF (year of publication): 3.3
DOI: <https://doi.org/10.3390/brainsci14040332>

Title: Cortico-cortical stimulation and robot-assisted therapy (CCS and RAT) for upper limb recovery after stroke: study protocol for a randomised controlled trial
Authors: Cinnera AM, Bonni S, D'Acunto A, Maiella M, Ferraresi M, Casula EP, Pezzopane V, Tramontano M, Iosa M, Paolucci S, Morone G, Vannozzi G, Koch G
Reference data: Dec 2023
Journal: Trials
IF (year of publication): 2
DOI: <https://doi.org/10.1186/s13063-023-07849-1>

Title: Somatosensory input in the context of transcranial magnetic stimulation coupled with electroencephalography: An evidence-based overview
Authors: Mancuso M, Cruciani C, Sveva V, Casula EP, Brown K, Rothwell JC, Di Lazzaro V, Koch G, Rocchi L
Reference data: Dec 2023
Journal: Neuroscience & Behavioural Review
IF (year of publication): 8.2
DOI: <https://doi.org/10.1016/j.neubiorev.2023.105434>

Title: Transcranial direct current stimulation effects on the neural substrate of conceptual representations
Authors: Bonni S, Borghi I, Maiella M, Casula EP, Koch G, Caltagirone C, Gainotti G
Reference data: July 2023
Journal: Brain Sciences
IF (year of publication): 3.333
DOI: <https://doi.org/10.3390/brainsci13071037>

Title: Machine Learning-based classification to disentangle EEG responses to TMS and auditory input
Authors: Cristofari A, De Santis M, Lucidi S, Rothwell JC, Casula EP, Rocchi L
Reference data: May 2023
Journal: Brain Sciences
IF (year of publication): 3.333
DOI: <https://doi.org/10.3390/brainsci13060866>

Title: TMS-EEG perturbation biomarkers for Alzheimer's disease patients classification
Authors: Casula EP, Tautan A, Pellicciari MC, Borghi I, Maiella M, Bonni S, Minei M, Assogna M et al.
Reference data: May 2023

Journal: Scientific Reports
IF (year of publication): 4.997
DOI: <https://doi.org/10.1016/j.brs.2023.02.009>

Title: Cerebellar noninvasive neuromodulation influences the reactivity of the contralateral primary motor cortex and surrounding areas: a TMS-EMG-EEG study

Authors: Rocchi L, Spampinato DA, Pezzopane V, Orth M, Bisiacchi PS, Rothwell JC, Casula EP

Reference data: Jun 2023

Journal: Cerebellum

IF (year of publication): 3.847

DOI: <https://doi.org/10.1007/s12311-022-01398-0>

Title: TMS combined with EEG: Recommendations and open issues for data collection and analysis

Authors: Hernandez-Pavon JC, Veniero D, Bergmann TO, Belardinelli P, Bortoletto M, Casarotto S, Casula EP et al.

Reference data: Feb 2023

Journal: Brain Stimulation

IF (year of publication): 6.919

DOI: <https://doi.org/10.1016/j.brs.2023.02.009>

Title: Regional Precuneus Cortical Hyperexcitability in Alzheimer's Disease Patients

Authors: Casula EP, Borghi I, Mariella M, Pellicciari MC, Bonni S, Mencarelli L, Assogna M, D'Acunto A, Di Lorenzo F, Spampinato DA, Santarnecchi E, Martorana A, Koch G

Reference data: Feb 2023

Journal: Annals of Neurology

IF (year of publication): 10.42

DOI: <https://doi.org/10.1002/ana.26514>

Title: Revised Protein Sparing Diet in Obesity and Type 2 Diabetes Mellitus

Authors: Cincione RI, Losavio F, Cibelli G, Messina G, Polito R, Casula EP, Cincione PP, Amatruda M, Limone P

Reference data: Dic 2022

Journal: Nutrients

IF (year of publication): 5.717

DOI: <https://doi.org/10.3390/nu14245325>

Title: Simultaneous transcranial electrical and magnetic stimulation boost gamma oscillations in the dorsolateral prefrontal cortex

Authors: Maiella M, Casula EP, Borghi I, Assogna M, D'Acunto A, Pezzopane V, Mencarelli L, Rocchi L, Pellicciari MC, Koch G

Reference data: Nov 2022

Journal: Scientific Reports

IF (year of publication): 4.996

DOI: <https://doi.org/10.1038/s41598-022-23040-z>

Title: Precuneus Magnetic Stimulation for Alzheimer's Disease: a randomized, sham-controlled trial

Authors: Koch G, Casula EP, Bonni S, Borghi I, Assogna M, Minei M, Pellicciari MC, Motta C, D'Acunto A, Porrazzini F, Maiella M, Ferrari C, Caltagirone C, Santarnecchi E, Bozzali M, Martorana A

Reference data: Oct 2022

Journal: Brain

IF (year of publication): 13.5

DOI: <https://doi.org/10.1093/brain/awac285>

Title: Italian Ketogenic Mediterranean Diet in Overweight and Obese Patients with Prediabetes or Type 2 Diabetes

Authors: Cincione RI, Messina A, Cibelli G, Messina G, Polito R, Losavio F, La Torre E, Monda V, Monda M, Quiete S, Casula EP, Napoli N, Defeudis G

Reference data: Oct 2022

Journal: Nutrients
IF (year of publication): 5.717
DOI: <https://doi.org/10.3390/nu14204361>

Title: The Effect of Coil Orientation on the Stimulation of the Pre-Supplementary Motor Area: A Combined TMS and EEG Study

Authors: Casula EP, Leodori G, Ibanez J, Benussi A, Rawji V, Tremblay S, Latorre A, Rothwell JC, Rocchi L

Reference data: Oct 2022

Journal: Brain Sciences

IF (year of publication): 3.33

DOI: <https://doi.org/10.3390/brainsci12101358>

Title: Decreased Frontal Gamma Activity in Alzheimer Disease Patients

Authors: Casula EP, Pellicciari MC, Bonni S, Borghi I, Maiella M, Assogna M, Minei M, Motta C, D'Acunto A, Porrazzini F, Pezzopane V, Mencarelli L, Roncaioli A, Rocchi L, Spampinato DA, Caltagirone C, Santarnecchi E, Martorana A, Koch G

Reference data: Sep 2022

Journal: Annals of Neurology

IF (year of publication): 10.42

DOI: <https://doi.org/10.1002/ana.26444>

Title: Age-related Changes in Cortical Excitability Linked to Decreased Attentional and Inhibitory Control

Authors: Cespon J, Pellicciari MC, Casula EP, Miniussi C

Reference data: 2022 May

Journal: Neuroscience

IF (year of publication): 3.59

DOI: <https://doi.org/10.1016/j.neuroscience.2022.05.021>

Title: Feeling of ownership over an embodied avatar's hand brings about fast changes of fronto-parietal cortical dynamics

Authors: Casula EP, Tieri G, Rocchi L, Pezzetta R, Maiella M, Pavone EF, Aglioti SM, Koch G

Reference data: 2021 Dic

Journal: Journal of Neuroscience

IF (year of publication): 6.167

DOI: <https://doi.org/10.1523/JNEUROSCI.0636-21.2021>

Title: Isolated A β pathology is associated with preserved cortical plasticity in ApoE4 Alzheimer's disease patients

Authors: Assogna M, Motta C, Bonni S, Borghi I, Casula EP, Martorana A, Koch G

Reference data: 2021 Dic

Journal: Journal of Alzheimer's Disease

IF (year of publication): 4.472

DOI: <https://doi.org/10.3233/JAD-215218>

Title: Evidence for interhemispheric imbalance in stroke patients as revealed by combining transcranial magnetic stimulation and electroencephalography

Authors: Casula EP, Pellicciari MC, Bonni S, Spanò B, Ponzo V, Salsano I, Giulietti G, Martino Cinnera A, Maiella M, Borghi I, Rocchi L et al.

Reference data: 2021 Jan

Journal: Human Brain Mapping

IF (year of publication): 5.038

DOI: <https://doi.org/10.1002/hbm.25297>

Title: Transcranial Evoked Potentials Can Be Reliably Recorded with Active Electrodes

Authors: Mancuso M, Sveva V, Cruciani A, Brown K, Ibáñez J, Rawji V, Casula E, Premoli I, D'Ambrosio S, Rothwell J, Rocchi L

Reference data: 2021 Jan
Journal: Brain Sciences
IF (year of publication): 3.394
DOI: <https://doi.org/10.3390/brainsci11020145>

Title: Disentangling EEG responses to TMS due to cortical and peripheral activations
Authors: Rocchi L, Di Santo A, Brown K, Ibáñez J, Casula E, Rawji V, Di Lazzaro V, Koch G, Rothwell J
Reference data: 2021 Jan
Journal: Brain Stimulation
IF (year of publication): 8.955
DOI: <https://doi.org/10.1016/j.brs.2020.10.011>

Title: Cerebellar Intermittent Theta-Burst Stimulation Combined with Vestibular Rehabilitation Improves Gait and Balance in Patients with Multiple Sclerosis: a Preliminary Double-Blind Randomized Controlled Trial
Authors: Tramontano M, Grasso MG, Soldi S, Casula EP, Bonni S, Mastrogiacomo S, D'Acunto A, Porrazzini F, Caltagirone C, Koch G
Reference data: 2020 Dec
Journal: The Cerebellum
IF (year of publication): 3.847
DOI: <https://doi.org/10.1007/s12311-020-01166-y>

Title: Intermittent Cerebellar Theta Burst Stimulation Improves Visuo-motor Learning in Stroke Patients: a Pilot Study
Authors: Bonni S, Motta C, Pellicciari MC, Casula EP, Cinnera AM, Maiella M, Picazio S, Tramontano M, Sallustio F, Koch G
Reference data: 2020 Oct
Journal: The Cerebellum
IF (year of publication): 3.847
DOI: <https://doi.org/10.1007/s12311-020-01146-2>

Title: LTP-like cortical plasticity predicts conversion to dementia in patients with memory impairment
Authors: Di Lorenzo F, Motta C, Casula EP, Bonni S, Assogna M, Caltagirone C, Martorana A, Koch G
Reference data: 2020 Sep
Journal: Brain Stimulation
IF (year of publication): 8.955
DOI: <https://doi.org/10.1016/j.brs.2020.05.013>

Title: Effect of rotigotine vs placebo on cognitive functions among patients with mild to moderate Alzheimer disease: a randomized clinical trial
Authors: Koch G, Motta C, Bonni S, Pellicciari MC, Picazio S, Casula EP, Maiella M, Di Lorenzo F, Ponzo V, Ferrari C, Scaricamazza E et al.
Reference data: 2020 Jul
Journal: JAMA Network Open
IF (year of publication): 8.483
DOI: <https://doi.org/10.1001/jamanetworkopen.2020.10372>

Title: Improving visuo-motor learning with cerebellar theta burst stimulation: behavioral and neurophysiological evidence
Authors: Koch G, Esposito R, Motta C, Casula EP, Di Lorenzo F, Bonni S, Cinnera AM, Ponzo V, Maiella M, Picazio S, Assogna M et al.
Reference data: 2020 Mar
Journal: Neuroimage
IF (year of publication): 6.556
DOI: <https://doi.org/10.1016/j.neuroimage.2019.116424>

Title: Effects of Palmitoylethanolamide Combined with Luteoline on Frontal Lobe Functions, High Frequency Oscillations, and GABAergic Transmission in Patients with Frontotemporal Dementia
Authors: Assogna M, Casula EP, Borghi I, Bonni S, Samà D, Motta C, Di Lorenzo F, D'Acunto A, Porrazzini F, Minei M, Caltagirone C et al.
Reference data: 2020 Jan
Journal: Journal of Alzheimer's Disease
IF (year of publication): 4.472
DOI: <https://doi.org/10.3233/JAD-200426>

Title: Novel TMS-EEG indexes to investigate interhemispheric dynamics in humans
Authors: Casula EP, Maiella M, Pellicciari MC, Porrazzini F, D'Acunto A, Rocchi L, Koch G.
Reference data: 2020 Jan
Journal: Clinical Neurophysiology
IF (year of publication): 3.708
DOI: <https://doi.org/10.1016/j.clinph.2019.09.013>

Title: Effect of cerebellar stimulation on gait and balance recovery in patients with hemiparetic stroke: a randomized clinical trial
Authors: Koch G, Bonni S, Casula EP, Iosa M, Paolucci S, Pellicciari MC, Cinnera AM, Ponzo V, Maiella M, Picazio S, Sallustio F et al.
Reference data: 2019 Feb
Journal: JAMA Neurology
IF (year of publication): 18.302
DOI: <https://doi.org/10.1001/jamaneurol.2018.3639>

Title: Effects of pulse width, waveform and current direction in the cortex: A combined cTMS-EEG study
Authors: Casula EP, Rocchi L, Hannah R, Rothwell JC
Reference data: 2018 Sep
Journal: Brain Stimulation
IF (year of publication): 6.919
DOI: <https://doi.org/10.1016/j.brs.2018.04.015>

Title: Response to the letter to the editor by Reilmann et al referring to our article titled" Motor cortex synchronization influences the rhythm of motor performance in premanifest Huntington's disease
Authors: Casula EP, Mayer IM, Desikan M, Tabrizi SJ, Rothwell JC, Orth M
Reference data: 2018 Jul
Journal: Movement Disorders
IF (year of publication): 8.061
DOI: <https://doi.org/10.1002/mds.27471>

Title: Dynamic reorganization of TMS-evoked activity in subcortical stroke patients.
Authors: Pellicciari MC, Bonni S, Ponzo V, Cinnera AM, Mancini M, Casula EP, Sallustio F, Paolucci S, Caltagirone C, Koch G.
Reference data: 2018 Jul
Journal: Neuroimage
IF (year of publication): 5.812
DOI: <https://doi.org/10.1016/j.neuroimage.2018.04.011>

Title: Variability and predictors of response to continuous theta burst stimulation: a TMS-EEG study.
Authors: Rocchi L, Ibáñez J, Benussi A, Hannah R, Rawji V, Casula E, Rothwell J.
Reference data: 2018 Jun
Journal: Frontiers in Neuroscience
IF (year of publication): 4.501
DOI: <https://doi.org/10.3389/fnins.2018.00400>

Title: Transcranial magnetic stimulation of the precuneus enhances memory and neural activity in prodromal Alzheimer's disease
Authors: Koch G, Bonni S, Pellicciari MC, Casula EP, Mancini M, Esposito R, Ponzo V, Picazio S, Di Lorenzo F, Serra L, Motta C.
Reference data: 2018 Apr
Journal: Neuroimage
IF (year of publication): 5.812
DOI: <https://doi.org/10.1016/j.neuroimage.2017.12.048>

Title: Motor cortex synchronization influences the rhythm of motor performance in premanifest huntington's disease
Authors: Casula EP, Mayer IM, Desikan M, Tabrizi SJ, Rothwell JC, Orth M.
Reference data: 2018 Mar
Journal: Movement Disorders
IF (year of publication): 8.061
DOI: <https://doi.org/10.1002/mds.27285>

Title: The reliability of commonly used electrophysiology measures.
Authors: Brown KE, Lohse KR, Mayer IM, Strigaro G, Desikan M, Casula EP, Meunier S, Popa T, Lamy JC, Odish O, Leavitt BR.
Reference data: 2017 Nov
Journal: Brain Stimulation
IF (year of publication): 6.120
DOI: <https://doi.org/10.1016/j.brs.2017.07.011>

Title: TMS-evoked long-lasting artefacts: a new adaptive algorithm for EEG signal correction.
Authors: Casula EP, Bertoldo A, Tarantino V, Maiella M, Koch G, Rothwell JC, Toffolo GM, Bisiacchi PS.
Reference data: 2017 Sep
Journal: Clinical Neurophysiology
IF (year of publication): 3.614
DOI: <https://doi.org/10.1016/j.clinph.2017.06.003>

Title: Transcranial Direct Current Stimulation (tDCS) of the Anterior Prefrontal Cortex (aPFC) Modulates Reinforcement Learning and Decision-Making Under Uncertainty: a Double-Blind Crossover Study
Authors: Casula EP, Testa G, Bisiacchi PS, Montagnese S, Caregaro L, Amodio P, Schiff S.
Reference data: 2017 May
Journal: Journal of Cognitive Enhancement
IF (year of publication): -
DOI: <https://doi.org/10.1007/s41465-017-0030-7>

Title: Subthalamic stimulation and levodopa modulate cortical reactivity in Parkinson's patients
Authors: Casula EP, Bassi MS, Pellicciari MC, Ponzo V, Veniero D, Peppe A, Brusa L, Stanzione P, Caltagirone C, Stefani A, Koch G.
Reference data: 2017 Jan
Journal: Parkinsonism and Related Disorders
IF (year of publication): 4.721
DOI: <https://doi.org/10.1016/j.parkreldis.2016.10.009>

Title: Spike-timing-dependent plasticity in the human dorso-lateral prefrontal cortex
Authors: Casula EP, Pellicciari MC, Picazio S, Caltagirone C, Koch G.
Reference data: 2016 Dec
Journal: Neuroimage
IF (year of publication): 5.835
DOI: <https://doi.org/10.1016/j.neuroimage.2016.08.060>

Title: Cerebellar theta burst stimulation modulates the neural activity of interconnected parietal and motor areas

Authors: Casula EP, Pellicciari MC, Ponzo V, Bassi MS, Veniero D, Caltagirone C, Koch G.
Reference data: 2016 Oct
Journal: Scientific Reports
IF (year of publication): 4.259
DOI: <https://doi.org/10.1038/srep36191>

Title: Somatosensory temporal discrimination threshold involves inhibitory mechanisms in the primary somatosensory area
Authors: Rocchi L, Casula EP, Tocco P, Berardelli A, Rothwell JC
Reference data: 2016 Jan
Journal: Journal of Neuroscience
IF (year of publication): 5.988
DOI: <https://doi.org/10.1523/JNEUROSCI.2008-15.2016>

Title: Acute hyperammonaemia induces a sustained decrease in vigilance, which is modulated by caffeine
Authors: Casula EP, Bisiacchi PS, Corrias M, Schiff S, Merkel C, Amodio P, Montagnese S.
Reference data: 2015 Feb
Journal: Metabolic brain disease
IF (year of publication): 2.603
DOI: <https://doi.org/10.1007/s11011-014-9590-8>

Title: Low-frequency rTMS inhibitory effects in the primary motor cortex: Insights from TMS-evoked potentials
Authors: Casula EP, Tarantino V, Basso D, Arcara G, Marino G, Toffolo GM, Rothwell JC, Bisiacchi PS.
Reference data: 2014 Sep
Journal: Neuroimage
IF (year of publication): 6.357
DOI: <https://doi.org/10.1016/j.neuroimage.2014.04.065>

Title: Bi-directional modulation of somatosensory mismatch negativity with transcranial direct current stimulation: an event related potential study
Authors: Chen JC, Hämmerer D, D'Ostilio K, Casula EP, Marshall L, Tsai CH, Rothwell JC, Edwards MJ
Reference data: 2014 Feb
Journal: Journal of Physiology
IF (year of publication): 5.037
DOI: <https://doi.org/10.1113/jphysiol.2013.260331>

Title: Muscle and timing-specific functional connectivity between the dorsolateral prefrontal cortex and the primary motor cortex
Authors: Hasan A, Galea JM, Casula EP, Falkai P, Bestmann S, Rothwell JC
Reference data: 2013 Apr
Journal: Journal of Cognitive Neuroscience
IF (year of publication): 4.687
DOI: https://doi.org/10.1162/jocn_a_00338

BOOK CHAPTERS

Title: Transcranial magnetic stimulation in speech and language research
Authors: D'Ausilio A, Pellicciari MC, Casula EP, Fadiga L
Year: 2023
Book: Neuromethods
DOI: https://doi.org/10.1007/978-1-0716-3263-5_10

Title: Transcranial magnetic stimulation and neuroimaging coregistration
Authors: Casula EP, Tarantino V, Basso D, Bisiacchi PS
Year: 2013
Book: Novel Frontiers of Advanced Neuroimaging

DOI: <https://dx.doi.org/10.5772/50076>

TALKS AT SCIENTIFIC CONGRESSES

Congress: International Clinical Neurophysiology Congress 2024. Jakarta 13/09/2024

Talk: "Real-time cortical dynamics during motor inhibition"

Congress: Society for Neuroscience Congress 2022. San Diego 08/06/2022

Talk: "Cortical markers of inhibitory deficits in Parkinson's disease: a TMS-EEG study"

Congress: 2022 Fresco International Workshop on Synaptic Plasticity and Parkinson Disease. Florence, 08/06/2022

Talk: "Real-time Assessment of Inhibition deficits in Parkinson's disease"

Congress: 3th FSL Research Retreat, Santa Lucia Foundation IRCCS. Rome, 01/12/2021

Talk: "Natural Frequencies in the Human Brain: a Novel Biomarker for AD"

Congress: 29th Congress of the Italian Society of Psychophysiology. Palermo, 30/09/2021

Talk: "Real-Time Assessment of Inhibitory Deficits in Parkinson's Disease by Combining TMS and EEG"

Congress: 1st Virtual FSL Research Retreat, Santa Lucia Foundation IRCCS. Rome, 20/02/2021

Talk: "Knock knock knockin' on brain's door: assessing brain dynamics with TMS-EEG"

Congress: Virtual Reality Experience Congress. Rome, 16/10/2020

Talk: "Knock knock knockin' on brain's door: bussando alla porta del cervello"

Congress: The European Conference on Controversies in Huntington's Disease. Wien 13/02/2020

Talk: "Cortical biomarkers of Huntington's disease: a multicentric TMS-EEG study"

Congress: Society For Neuroscience Congress 2019. Chicago, 20/10/2019

Talk: "Real-time assessment of brain dynamics during embodiment: an IVR-TMS-EEG study"

Congress: 26th Congress of the Italian Society of Psychophysiology (SIPF). Turin, 16/11/2018

Talk: "Real-time assessment of embodiment-related brain dynamics: a tms-eeG study in immersive virtual reality"

Congress: 48th Congress of the Italian Society of Neurology (SIN), Naples 16/10/2017

Talk: "Interhemispheric unbalance in stroke patients: a new TMS/EEG cortical marker"

Congress: 48th Congress of the Italian Society of Neurology (SIN), Naples 17/10/2017

Talk: "Cortical biomarkers of Huntington's disease: a multicentric TMS-EEG study"

Congress: 47th Congress of the Italian Society of Neurology (SIN), Lido di Venezia, 24/10/2016

Talk: "Effetto della Stimolazione Cerebrale profonda sull'attività cerebrale nei Pazienti Parkinson"

Congress: 6th International Congress of Transcranial Stimulation. Gottingen, 09/09/2016

Talk: "Cerebellar neuromodulation modulates the activity of interconnected parietal and motor areas"

Congress: 23th Congress of the Italian Society of Psychophysiology. Lucca, 19/11/2015

Talk: "Spike-timing-dependent plasticity in the fronto-parietal network revealed by simultaneous TMS-EEG"

Congress: 15th European Congress of Clinical Neurophysiology. Brno, 2/10/2015

Talk: "Fronto-parietal changes in cortical reactivity reflect spike-timing dependent plasticity"

Congress: UCL Sobell Department Open Day. London, 05/02/2014

Talk: "Using electroencephalography activity to monitor the effects of TMS in the brain"

Congress: 1st Cognitive Science Arena for Beginners, Brixen, 09/09/2013

Talk: "Inhibitory Effects of low-frequency rTMS In The Primary Motor Cortex: a TMS/EEG study"

Congress: European Workshop on Cognitive Neuropsychology. Brixen, 21/01/2013

Talk: "Rtms Inhibitory Effects In The Primary Motor Cortex: Insights From Tms-Evoked Potentials"

Congress: 20th Congress of The Italian Society of Psychophysiology (SIPF). Lido di Venezia, 23/11/2012
Talk: "Reinforcement Learning Is Mediated By Medial Orbitofrontal Cortex: Evidences From Transcranial Direct Current Stimulation (TDCS)"

Congress: 18th Congress of the Italian Association of Psychology (AIP). Chieti, 20/09/2012
Talk: "Attività neurale e artefatti evocati dalla TMS: esiste una relazione?"

INVITED SEMINARIES AND SYMPOSIUMS

Symposium "Future NIBS: hints on stimulation protocols refinement"

Location: 31th Congress of the Italian Society of Psychophysiology. Siena, 10/11/2023

Talk: "New perspectives in neuromodulation: personalization of TMS-based protocols and biomarkers"

Invited Seminary

Location: Department of Psychology, University of Verona. Verona, 13/12/2021

Talk: "Knock knock knockin' on brain's door: assessing brain dynamics with TMS-EEG"

Invited Seminary

Location: Department of Physiology, University of Sassari. Sassari, 07/04/2021

Talk: "Assessing Brain Dynamics with TMS-EEG"

Invited Seminary

Location: Department of Psychology, La Sapienza University. Rome (via Zoom), 19/01/2021

Talk: "Real-Time Assessment Of Brain Dynamics: the Combined use Of TMS and EEG"

Symposium "Cerebellar neuromodulation: from neurophysiology to clinical applications"

Location: 29th Congress of the Italian Society of Psychophysiology. Palermo (via Zoom), 28/11/2020

Talk: "Cerebellar theta-burst stimulation in the recovery of stroke"

Symposium "Combining TMS and EEG to investigate cortical brain connectivity: issues and new insights"

Location: 7th International Conference on Non-invasive Brain Stimulation. Baden Baden (via Zoom), 10/11/2020

Talk: "TMS-EEG indexes to investigate interhemispheric connectivity in the healthy and pathological brain"

Symposium "Using insights from basic science to improve the methodology of transcranial magnetic stimulation"

Location: 11th Forum of Neuroscience. Berlin, 10/07/2018

Talk: "Influence of cerebellar rTMS on parietal and frontal areas"

Invited talk

Location: 11th National Congress SIRAS (Italian Society of High-specialized Rehabilitation). Pavia, 28/07/2019

Talk: "Stimolazione cerebrale non invasiva nel recupero dell'ictus: dalla sperimentazione alla clinica"

Invited Talk

Location: Department of Neuroscience. Padua, 25/10/2016

Talk: "Lo studio della connettività e della reattività cerebrale tramite combinazione di stimolazione non- invasiva ed elettroencefalografia"

Symposium 'Comportamento, cervello e stimolazioni transcraniche',

Location: 19th Congress of Experimental Psychology, Rome, 16/09/2013

Talk: "Il ruolo della corteccia orbitofrontale mediale (mOFC) nell'apprendimento per rinforzo: uno studio tDCS"

DISSEMINATION AND THIRD MISSION

Divulgate event "Neurowebinars", Nov 2024

Link: <https://neuromedspa.my.webex.com/neuromedspa.my-it/j.php?MTID=m9839328822e06af4c98898df87b81e61>

Divulgate event "BCI e Neurotechnologies", Nov 2024

Link: <https://www.gtec.at/bci-neurotech-masterclass-italy-2023/?srsltid=AfmBOoqRoQTxssuHk2iGH-mOfm6b-CTIAwZXXisNJs9O9Msm8hojuXs>

Interview "Corriere Università e Lavoro", 25/09/2023

Link: <https://corriereuniv.it/la-ricerca-delluniversita-tor-vergata-che-vuole-aiutare-la-prevenzione-delle-patologie-neurodegenerative/>

Interview “Hsantalucia.it”, 28/06/2022

Link: https://www.hsantalucia.it/news/malattia-di-alzheimer-nelle-oscillazioni-gamma-un-nuovo-biomarcatore-predire-la-progressione?fbclid=IwY2xjawFsl-lleHRuA2FlbQlXMAABHXPEXZSAVGIBhxEWYRYQupGyOr8i7bTqqTTAl0FNpY76CVXqvP6xOxAInA_aem_4HGSIG9RS9UKdOBYaJUG1g

Interview “Salute e Benessere”, 11/05/2022

Link: https://www.ansa.it/canale_saluteebenessere/notizie/medicina/2022/02/04/studio-indaga-le-reazioni-cervello-con-un-arto-virtuale_0ec50461-9cdd-4650-87dc-e24e7555bdd1.html

Interview “Unica Radio”, 06/04/2022

Link: <https://www.unicaradio.it/blog/2022/02/06/ricerca-indagate-reazioni-cervello-quando-viene-incorporato-braccio-virtuale/>

Interview “Mantova UNO”, 04/03/2022

Link: <https://mantovauno.it/salute/ricerca-indagate-reazioni-cervello-quando-viene-incorporato-braccio-virtuale/>

Interview “DottNET”, 01/03/2022

Link: <https://www.dottnet.it/articolo/32529612/studio-italiano-indaga-le-reazioni-cervello-con-un-arto-virtuale>

Interview “Laboratori Italiani Riuniti”, 22/02/2022

Link: <https://www.lirspa.com/ricerca-scientifica/come-reagisce-il-cervello-ad-un-braccio-virtuale-lo-studio-santa-lucia-irccs-sullembodiment/>

Interview “Federazione Nazionale degli Ordini dei Biologi”, 19/02/2022

Link: <https://www.fnob.it/2022/02/19/la-relazione-tra-lattivita-cerebrale-e-larto-fantasma/>

Interview “Panorama della Sanità”, 06/02/2022

Link: https://panoramadellasanita.it/site/come-reagisce-il-cervello-se-larto-e-virtuale/page/4/?et_blog

Interview “ANSA Medicina”, 04/02/2022

Link: https://www.ansa.it/canale_saluteebenessere/notizie/medicina/2022/02/04/studio-indaga-reazioni-cervello-con-arto-virtuale_0ec50461-9cdd-4650-87dc-e24e7555bdd1.html?fbclid=IwY2xjawFsmLBleHRuA2FlbQlXMAABHYBDXQID5d4wDnIFQ81hFXRPXMVO074utVD0omnvflqzBY3bcPD4hqIEDA_aem_ANI5HOeHMD8zfvp_m0H6w

Divulgative event “Tecnologie emergenti, salute e medicina”, 27/10/2020

Link: https://www.youtube.com/watch?v=-FWkGjjF9T0&ab_channel=VRE-VIRTUALREALITYEXPERIENCE

Interview “Il Messaggero”, 22/07/2020

Link: https://www.ilmessaggero.it/salute/ricerca/alzheimer_una_nuova_cura_da_farmaco_anti_parkinson-5360301.html?fbclid=IwY2xjawFsmCxlleHRuA2FlbQlXMAABHdSYeUcjcHeOR-mjTmbM5hPBkjdW8do4cstuk4rV_622OBX9poyo_DUcQ_aem_alZPLld2LR-pl5f7hWiqLg

Interview “Unione Sarda”, 18/08/2019

Link: “Biomarcatori del Parkinson: premiato ricercatore sardo”

Interview “RAI News 24”, 18/12/2018

Link: https://www.youtube.com/watch?v=2Nly_pg-ePs&ab_channel=FondazioneSantaLuciaIRCCS

Divulgative paper “Link – Rivista di Psicologia”, 14/06/2013

Link: https://www.aupi.it/newsite/wp-content/uploads/2013/05/LINK-1_12-.pdf#page=8

The undersigned is aware that, pursuant to art. 26 of Law 15/68, and Articles. 46 and 47 of Presidential Decree 445/2000, false statements, falsified acts and use of false acts are punishable under the Penal Code and special laws. Moreover, the undersigned authorizes the processing of personal data, in accordance with the provisions of Law 675/96 of 31 December 1996.

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae in base all'art. 13 del D. Lgs. 196/2003 e all'art. 13 GDPR 679/16

Rome, 29/09/2025

Elias P. Costa