

BIOGRAPHICAL SKETCH

NAME ANTONIO SUPPA	POSITION TITLE MD, PhD, Associate Professor of Neurology, Sapienza University of Rome, Italy		
EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE	YEAR(s)	FIELD OF STUDY
Sapienza University of Rome, Italy	Master Degree	1996 – 2002	Medicine
Sapienza University of Rome, Italy	Residency in Neurology	2002 – 2007	Neurology
University College London, UK	Research Fellow	2006-2007	Clinical Neurophysiology
Sapienza University of Rome, Italy	PhD	2007 – 2010	Clinical Neurophysiology
Sapienza University of Rome, Italy	Post-doc Research Fellow	2010 – 2014	Clinical Neurophysiology
Sapienza University of Rome, Italy	Assistant Professor	2014 – 2019	Neurology
Sapienza University of Rome, Italy	Tenured - Assistant Professor	2019-present	Neurology
Sapienza University of Rome, Italy	Associate Professor	2021-present	Neurology

A. Personal Statement

I am currently working as Associate Professor in Neurology at the Department of Human Neurosciences, Sapienza University of Rome, Italy. My research activity mainly focuses on the pathophysiology of motor symptoms in Parkinson's disease and other movement disorders. For this purpose, I apply advanced non-invasive brain stimulation (NIBS) techniques designed to assess mechanisms of long-term synaptic plasticity in the primary motor cortex. My current clinical activity includes diagnosis and treatment of specific motor signs and symptoms in patients with Parkinson's disease and dystonia by means of advanced wireless and wearable technology (inertial sensors). My clinical activity also includes advanced training in EMG-guided Botulinum Toxin injections in patients with dysphonia, dystonia, spasticity and other disorders. Here attached my scientometric Indicators:

Publications: 131
 Books, eBook, Chapters: 10
 Total citations: 4441 (Google Scholar)
 H-Index: 34 (Google Scholar)
 Researcher unique identifier (ORCID, Research ID): <http://orcid.org/0000-0001-9903-5550>

B. Positions and Honors

2021-2024	Membro del Consiglio Direttivo e Delegato per l'Estero e per i Rapporti Intersocietari della Società Italiana di Neurofisiologia clinica (SINC)
2021-2022	Docente del Master Biennale in "Intelligenza Artificiale e Telemedicina", Università degli Studi di Parma.

2021-presente	Faculty of Sapienza University-CIVIS "Civis – A European Civic University", the European University Network, European Commission
2021-presente	Editorial Board di Scientific Reports
2021-presente	Leader di "MDS Task Force on Clinical Neurophysiology - Parkinsonism Subgroup"
2020-presente	Abilitazione Scientifica Nazionale a Professore Ordinario di Neurologia
2019-2021	Corso Avanzato Biennale in "Qualità e Innovazione della Didattica – QUID", Sapienza Università di Roma, Italia
2019–presente	Ricercatore RTD-B in Neurologia, Facoltà di Medicina e Chirurgia, Dipartimento di Neuroscienze Umane, Sapienza Università di Roma, Italia.
2019–presente	Dirigente Medico Neurologo, Policlinico Umberto I Roma
2019–presente	Membro del "Scientific Panel in Movement Disorders" European Academy of Neurology (EAN)
2019	Co-vincitore "PREMIO ARD DISTONIA", V Congresso dell'Accademia LIMPE- DISMOV 2019, Catania, 22-24 May 2019. Titolo "Voice Analysis in Adductor-Type Spasmodic Dysphonia."
2018-2021	Delegato per l'estero della Società Italiana di Neurofisiologia clinica (SINC)
2018–presente	Scientific Board, PhD in Experimental and Clinical Neuroscience, Dipartimento di Neuroscienze Umane, Sapienza Università di Roma, Italia.
2018–presente	Docente, "Corso di Alta Formazione in Elettromiografia Clinica", Dipartimento di Neuroscienze Umane, Sapienza Università di Roma, Italia.
2018–presente	Co-fondatore di "Special Interest Group (SIG) on non-invasive brain stimulation, Executive Committee of the International Federation of Clinical Neurophysiology, (IFCN)"
2018–presente	Membro di Sapienza Information-Based Technology Innovation Center (STITCH).
2018	Vincitore "Sapienza Ricerca - Bando Ateneo 2018", Dipartimento di Neuroscienze Umane, Sapienza Università di Roma, Italia. Titolo: "Brain networks responsible for visual hallucinations in Parkinson's Disease and Dementia with Lewy bodies: a combined TMS-EEG study".
2017–presente	Membro di Editorial Board di Clinical Neurophysiology
2017	Co-vincitore "Sapienza Ricerca-Bando Ateneo 2017", Titolo: "Clinical, neurophysiological and neuroimaging findings in patients with essential tremor".
2017	Abilitazione Scientifica Nazionale a Professore Associato di Neurologia
2016	Guest Associate Editor in Frontiers in Neurology
2016	Vincitore "Sapienza Ricerca - Bando Ateneo 2016", Sapienza Università di Roma, Italia. Titolo: "Salivary alpha-synuclein and tau as new biomarkers in Parkinson's Disease and atypical parkinsonisms".
2015	Vincitore "Sapienza Ricerca - Bando Ateneo 2015", Sapienza Università di Roma, Italia. Titolo: "Salivary alpha-synuclein: a new biomarker for Parkinson's Disease?".
2015	Co-vincitore "Innovation Design Contest 2015", Innovation Day - Milano October 29, 2015. Titolo: "Sensing Network for recognizing specific motion features".
2014 –presente	Titolare di contratto di ricerca, IRCCS Neuromed Institute, Pozzilli (IS), Italy.
2014 - 2019	Assistente Universitario con ruolo di Ricercatore RTD-A, Dipartimento di Neuroscienze Umane, Sapienza Università di Roma, Italia.
2013	Co-vincitore "Sapienza Ricerca-Bando Ateneo 2013", Titolo "Pain- Motor integration in patients with chronic pain and movement disorders."
2012 -2014	Post-doc, Dipartimento di Neuroscienze Umane, Sapienza Università di Roma, Italia. Titolo: "Pain-motor integration in patients with Parkinson's Disease".
2012	Vincitore di "EFNS Tournament for Young Neurologists - Runner-up Prize", 16th Congress of the European Federation of Neurological Societies, Stockholm, Sweden, September 8-11, 2012. Titolo: "Impaired primary motor cortex LTP/LTD-like plasticity in multiple system atrophy."
2012	Co-vincitore "Sapienza Ricerca-Bando Ateneo 2012". Titolo: "New method of assessing cortical processes of pain-motor integration. A study in healthy subjects and patients with diabetic neuropathy or dystonia."
2012	Co-vincitore "PREMIO ARD DISTONIA", XLII Congresso Società Italiana di Neurologia SIN 2012, Rimini, 6-9 October 2012. Titolo "Stress coping and attachment style in patients with cervical dystonia."
2011 -2016	Membro di Commissione Medica, Dipartimento Nucleare, Rischio Tecnologico e Industriale, Istituto Superiore per la Protezione e la Ricerca Ambientale (ISPRA).
2011 -2012	Co-vincitore, "Research Grant Awards 2011-2012", The Tourette Syndrome Association, Inc, New York, USA. Titolo: "Synaptic plasticity in primary motor cortex and brainstem in Gilles de la Tourette Syndrome."
2011 – presente	Membro della Movement Disorders Society (MDS) (International Parkinson and Movement Disorder Society)
2010 -2013	Membro del Consiglio Direttivo della Associazione Italiana Malattia di Parkinson e Disordini del

	Movimento (DISMOV-SIN).
2010 -2013	Executive Committee dell'Associazione Italiana Malattia di Parkinson e Disordini del Movimento (DISMOV-SIN).
2010 -2012	Post-doc, Dipartimento di Neuroscienze Umane, Sapienza Università di Roma, Italia. Titolo: "Studio della plasticità delle aree corticali motorie nei soggetti sani e nei pazienti con disordini del movimento".
2010 – presente	Membro della LIMPE (ora Accademia per lo Studio della Malattia di Parkinson e i Disordini del Movimento - Accademia LIMPE-DISMOV).
2010	Vincitore del "Best Young Researcher 2010", Italian Society of Clinical Neurophysiology (SINC), Siena, Italy, 13-15 Maggio, 2010. Titolo: "Dopamine influences primary motor cortex plasticity and dorsal premotor-motor connectivity in Parkinson's disease."
2010	Vincitore di "The 2010 Travel Grants Award Program", 14th International Congress of Parkinson's Disease and Movement Disorders, June 13-17, Buenos Aires, Argentina. Titolo: "Plastic changes in human motor cortex induced by repetitive Ad laser inputs paired with transcranial magnetic stimulation".
2009	Co-vincitore del "Junior Awards 2009 - Basic Science", The Movement Disorder Society's 13th International Congress of Parkinson's Disease and Movement Disorders, Chicago, USA, June 7-11, 2009. Titolo: "Stimulation genomics: Identifying functional polymorphisms modulating LTP and LTD in human cerebral cortex and implications for levodopa induced dyskinesia in Parkinson's disease."
2008 -presente	Associate Faculty Member, "Faculty of 1000 Medicine", sezione "Neurological Disorders - Movement Disorders"
2008	Co-vincitore del "Queen Square Prize 2008", Institute of Neurology, University College of London, and National Hospital for Neurology & Neurosurgery, Queen Square, London, UK. Titolo: "Stimulation Genomics: Probing the effects of Genetic Variation on Human Cortical Plasticity and its Clinical Implications."
2006 – presente	Membro della Società Italiana di Neurofisiologia clinica (SINC)
2004 – 2016	Membro della Società Italiana di Disordini del Movimento (DISMOV-SIN)
2004 – presente	Membro della Società Italiana di Neurologia (SIN)

C. Contribution to Science

- 1) Gilio F, Currà A, Inghilleri M, Lorenzano C, Suppa A, Manfredi M, Berardelli A. Abnormalities of motor cortex excitability preceding movement in patients with dystonia. *Brain* 2003; 126: 1745-1754.
- 2) Trompetto C, Currà A, Buccolieri A, Suppa A, Abbruzzese G, Berardelli A. Botulinum toxin changes intrafusal feedback in dystonia: a study with the tonic vibration reflex in humans. *Mov Disord* 2006; 21: 777-782.
- 3) Lorenzano C, Dinapoli L, Gilio F, Suppa A, Bagnato S, Currà A, Inghilleri M, Berardelli A. Motor cortical excitability studied with repetitive transcranial magnetic stimulation in patients with Huntington's Disease. *Clin Neurophysiol* 2006; 117: 1677-1681.
- 4) Gilio F, Suppa A, Bologna M, Lorenzano C, Fabbrini G, Berardelli A. Short-term cortical plasticity in patients with dystonia: a study with repetitive transcranial magnetic stimulation. *Mov Disord* 2007; 22: 1436-1443.
- 5) Ottaviani D, Tiple D, Suppa A, Colosimo C, Fabbrini G, Cincotta M, Defazio G, Berardelli A. Mirror movements in patients with Parkinson's disease. *Mov Disord* 2008; 23: 253-258.
- 6) Suppa A, Bologna M, Gilio F, Lorenzano C, Rothwell JC, Berardelli A. Preconditioning rTMS of premotor cortex can reduce but not enhance short-term facilitation of primary motor cortex. *J Neurophysiol* 2008; 99: 564-570.
- 7) Ortu E, Deriu F, Suppa A, Giaconi E, Tolu E, Rothwell JC. Intracortical modulation of cortical-bulbar responses for the masseter muscle. *J Physiol* 2008; 586: 3385-3404.
- 8) Berardelli A, Abbruzzese G, Chen R, Orth M, Ridding M, Stinear C, Suppa A, Trompetto C, Thompson P. Consensus Paper on SICl and other TMS intracortical paradigms in Movement Disorders. *Brain Stim* 2008; 1; 183-191.
- 9) Suppa A, Ortu E, Zafar N, Deriu F, Paulus W, Berardelli A, Rothwell JC. Theta Burst Stimulation induces after-effects on contralateral primary motor cortex excitability in humans. *J Physiol* 2008; 586; 4489-4500.
- 10) Agostino R, Iezzi E, Dinapoli L, Suppa A, Conte A, Berardelli A. Effects of intermittent theta burst stimulation on practice-related changes in fast finger movements in healthy subjects. *Eur J Neurosci* 2008; 28: 822-828.

- 11) Iezzi E, Conte A, Suppa A, Agostino R, Dinapoli L, Scontrini A, Berardelli A. Phasic voluntary movements reverse the after-effects of subsequent theta-burst stimulation in humans. *J Neurophysiol* 2008; 100: 2070-2076.
- 12) Ortu E, Deriu F, Suppa A, Tolu E, Rothwell JC. Effects of volitional contraction on intracortical inhibition and facilitation in the human motor cortex. *J Physiol* 2008; 586: 5147-5159.
- 13) Cheeran B, Talelli P, Mori F, Koch G, Suppa A, Edwards M, Houlden H, Bhatia K, Greenwood R, Rothwell JC. A Common Polymorphism in the Brain Derived Neurotrophic Factor Gene (BDNF) Modulates Human Cortical Plasticity and the Response to rTMS. *J Physiol* 2008; 586: 5717-5725.
- 14) Suppa A, Berardelli A, Brancati F, Marianetti M, Barrano G, Mina C, Pizzuti A, Sideri G. Clinical, Neurophysiological and Genetic Characterization of Familial Cortical Myoclonic Tremor with Epilepsy in a New Italian Pedigree. *Epilepsia*. 2009; 50: 1284-1288.
- 15) Scontrini A, Conte A, Defazio G, Fiorio M, Fabbrini G, Suppa A, Tinazzi M, Berardelli A. Somatosensory temporal discrimination in patients with primary focal dystonia. *J Neurol Neurosurg Psychiatry* 2009; 80:1315-1319.
- 16) Fabbrini G, Defazio G, Colosimo C, Suppa A, Bloise M, Berardelli A. Onset and spread of dyskinesias and motor symptoms in Parkinson's disease. *Mov Disord* 2009; 24:2091-2096.
- 17) Suppa A, Iezzi E, Conte A, Belvisi D, Marsili L, Modugno N, Fabbrini G, Berardelli A. Dopamine influences primary motor cortex plasticity and dorsal premotor-to-motor connectivity in Parkinson's disease. *Cereb Cortex* 2010; 20:2224-2233.
- 18) Iezzi E, Suppa A, Conte A, Agostino R, Nardella A, Berardelli A. Theta-burst stimulation over primary motor cortex degrades early motor learning. *Eur J Neurosci* 2010; 31:585-592.
- 19) Katayama T, Suppa A, Rothwell JC. Somatosensory evoked potentials and high frequency oscillations are differently modulated by theta burst stimulation over primary somatosensory cortex in humans. *Clin Neurophysiol* 2010; 121:2097-2103.
- 20) Colosimo C, Suppa A, Fabbrini G, Bologna M, Berardelli A. Craniocervical dystonia: clinical and pathophysiological features. *Eur J Neurol* 2010; 17 Suppl 1:15-21.
- 21) Berardelli A, Suppa A. Recent advances in the pathophysiology of Parkinson's disease: evidence from fMRI and TMS studies. *Exp Neurol* 2011; 227:10-12.
- 22) Suppa A, Berardelli A. Functional connectivity between non primary motor cortex and primary motor and sensory areas investigated in humans with TDCS and rTMS. *Clin Neurophysiol*. 2011; 122(4):643-644.
- 23) Suppa A, Marsili L, Belvisi D, Conte A, Iezzi E, Modugno N, Fabbrini G, Berardelli A. Lack of LTP-like plasticity in primary motor cortex in Parkinson's disease. *Exp Neurol*. 2011; 227:296-301.
- 24) Suppa A, Belvisi D, Bologna M, Marsili L, Berardelli I, Moretti G, Pasquini M, Fabbrini G, Berardelli A. Abnormal Cortical and BrainStem Plasticity in Gilles de la Tourette Syndrome. *Mov Disord*. 2011; 26(9):1703-1710.
- 25) Iezzi E, Suppa A, Conte A, Li Voti P, Bologna M, Berardelli A. Short-term and long-term plasticity interaction in human primary motor cortex. *Eur J Neurosci*. 2011; 33(10):1908-1915.
- 26) Li Voti P, Conte A, Suppa A, Iezzi E, Bologna M, Aniello MS, Defazio G, Rothwell JC, Berardelli A. Correlation between cortical plasticity, motor learning and BDNF genotype in healthy subjects. *Exp Brain Res*. 2011; 212(1):91-99.
- 27) Bologna M, Conte A, Suppa A, Berardelli A. Motor cortex plasticity in Parkinson's disease: advances and controversies. *Clin Neurophysiol*. 2012;123(4):640-1.
- 28) Berardelli A, Conte A, Fabbrini G, Bologna M, Latorre A, Rocchi L, Suppa A. Pathophysiology of pain and fatigue in Parkinson's disease. *Parkinsonism Relat Disord*. 2012; Suppl 1: S226-8.
- 29) Suppa A, Berardelli A. Horizons in LTP-like plasticity in human primary motor cortex. *Clin Neurophysiol*. 2012;123(11):2111-3.
- 30) Suppa A, Papazachariadis O. Unraveling acetylcholine impact on human cortical plasticity. *J Neurosci*. 2012;32(32):10795-6.
- 31) Suppa A, Biasiotta A, Belvisi D, Marsili L, La Cesa S, Truini A, Cruccu G, Berardelli A. Heat-evoked experimental pain induces long-term potentiation-like plasticity in human primary motor cortex. *Cereb Cortex*. 2013;23(8):1942-51.
- 32) Fabbrini G, Latorre A, Suppa A, Bloise M, Frontoni M, Berardelli A. Fatigue in Parkinson's disease: motor or non-motor symptom? *Parkinsonism Relat Disord*. 2013;19(2):148-52.
- 33) Belvisi D, Suppa A, Marsili L, Di Stasio F, Parvez AK, Agostino R, Fabbrini G, Berardelli A. Abnormal experimentally- and behaviorally-induced LTP-like plasticity in focal hand dystonia. *Exp Neurol*. 2013; 240:64-74.
- 34) Suppa A, Bologna M, Berardelli A. L-DOPA and cortical associative plasticity in Parkinson's disease. *Clin Neurophysiol*. 2013;124(4):638-9.
- 35) Suppa A, Papazachariadis O. Promoting endogenous associative plasticity in human primary motor cortex. *J Physiol*. 2013;591(Pt 1):7-8.

- 36) Suppa A. Boosting neural activity in cortical motor areas through neurofeedback in Parkinson's Disease. *Clin Neurophysiol.* 2013;124(7):1262-3.
- 37) Suppa A, Li Voti P, Rocchi L, Papazachariadis O, Berardelli A. Early Visuomotor Integration Processes Induce LTP/LTD-Like Plasticity in the Human Motor Cortex. *Cereb Cortex.* 2013. doi: 10.1093/cercor/bht264.
- 38) Berardelli A, Suppa A. Noninvasive brain stimulation in Huntington's disease. *Handb Clin Neurol.* 2013; 116:555-60.
- 39) Suppa A, Marsili L, Di Stasio F, Latorre A, Parvez A, Colosimo C, Berardelli A. Primary motor cortex long-term plasticity in multiple system atrophy. *Mov Disord.* 2013. doi: 10.1002/mds.25668.
- 40) Nardella A, Rocchi L, Conte A, Bologna M, Suppa A, Berardelli A. Inferior parietal lobule encodes visual temporal resolution processes contributing to the critical flicker frequency threshold in humans. *PLoS One.* 2014;9: e98948.
- 41) Suppa A, Marsili L, Di Stasio F, Berardelli I, Roselli V, Pasquini M, Cardona F, Berardelli A. Cortical and brainstem plasticity in Tourette syndrome and obsessive-compulsive disorder. *Mov Disord.* 2014; 29:1523-1531.
- 42) Suppa A, Cheeran B. Further insights into the effect of BDNF genotype on non-invasive brain stimulation. *Clin Neurophysiol.* 2015. pii: S1388-2457(14)00532-X.
- 43) Bologna M, Suppa A, Conte A, Latorre A, Rothwell JC, Berardelli A. Are studies of motor cortex plasticity relevant in human patients with Parkinson's disease? *Clin Neurophysiol.* 2015. pii: S1388-2457(15)00114-5.
- 44) Suppa A, Marsili L, Giovannelli F, Di Stasio F, Rocchi L, Upadhyay N, Ruoppolo G, Cincotta M, Berardelli A. Abnormal motor cortex excitability during linguistic tasks in adductor-type spasmodic dysphonia. *Eur J Neurosci.* 2015; 42:2051-60.
- 45) Suppa A, Rocchi L, Li Voti P, Papazachariadis O, Casciato S, Di Bonaventura C, Giallonardo AT, Berardelli A. The Photoparoxysmal Response Reflects Abnormal Early Visuomotor Integration in the Human Motor Cortex. *Brain Stimul.* 2015; 8:1151-1161.
- 46) Suppa A, Di Stasio F, Marsili L, Upadhyay N, Belvisi D, Conte A, Modugno N, Colosimo C, Berardelli A. Primary Motor Cortex LTP/LTD-like Plasticity in Probable Cortico-basal Syndrome. *J Neurophysiol* 2016; 115: 717-727.
- 47) Upadhyay N, Suppa A, Piattella MC, Di Stasio F, Petsas N, Colonnese C, Colosimo C, Berardelli A, Pantano P. Gray and white matter structural changes in corticobasal syndrome. *Neurobiol Aging* 2016; 37: 82-90.
- 48) Marsili L, Suppa A, Berardelli A, Colosimo C. Therapeutic interventions in parkinsonism: Corticobasal degeneration. *Parkinsonism Relat Disord* 2016; 22 Suppl 1: S96-100.
- 49) P. Lorenzi, R. Rao, G. Romano, A. Kita, M. Serpa, F. Filesi, R. Parisi, A. Suppa, M. Bologna, A. Berardelli, F. Irrera. Smart Sensing Systems for the Detection of Human Motion Disorders. *Procedia Engineering* 2015; 120:324-327.
- 50) Lorenzi P, Rao R, Romano G, Kita A, Serpa M, Filesi F, Irrera F, Bologna M, Suppa A, Berardelli A. Smart sensors for the recognition of specific human motion disorders in Parkinson's disease. *Proceedings - 2015 6th IEEE International Workshop on Advances in Sensors and Interfaces, IWASI 2015*, 131-136.
- 51) Lorenzi P, Rao R, Suppa A, Kita A, Parisi R, Romano G, Berardelli A, Irrera F. Wearable wireless inertial sensors for long-time monitoring of specific motor symptoms in Parkinson's disease. *BIODEVICES 2015 - 8th International Conference on Biomedical Electronics and Devices, Proceedings; Part of 8th International Joint Conference on Biomedical Engineering Systems and Technologies, BIOSTEC 2015*, 168-173
- 52) Vivacqua G, Latorre A, Suppa A, Nardi M, Pietracupa S, Mancinelli R, Fabbrini G, Colosimo C, Gaudio E, Berardelli A. Abnormal Salivary Total and Oligomeric Alpha-Synuclein in Parkinson's Disease. *PLoS One.* 2016;11(3): e0151156.
- 53) Suppa A, Huang YZ, Funke K, Ridding MC, Cheeran B, Di Lazzaro V, Ziemann U, Rothwell JC. Ten Years of Theta Burst Stimulation in Humans: Established Knowledge, Unknowns and Prospects. *Brain Stimul.* 2016;9(3):323-35.
- 54) Suppa A, Rocchi L. Visual cortex hyperexcitability contributes to the pathophysiology of the photoparoxysmal response. *Clin Neurophysiol.* 2016;127(10):3351-2.
- 55) Upadhyay N, Suppa A, Piattella MC, Bologna M, Di Stasio F, Formica A, Tona F, Colosimo C, Berardelli A, Pantano P. MRI gray and white matter measures in progressive supranuclear palsy and corticobasal syndrome. *J Neurol.* 2016;263(10):2022-31.
- 56) Bologna M, Latorre A, Di Biasio F, Conte A, Belvisi D, Modugno N, Suppa A, Berardelli A, Fabbrini G. The Effect of L-Dopa/Carbidopa Intestinal Gel in Parkinson Disease Assessed Using Neurophysiologic Techniques. *Clin Neuropharmacol.* 2016;39(6):302-305.

- 57) Suppa A, Bologna M, Conte A, Berardelli A, Fabbrini G. The effect of L-dopa in Parkinson's disease as revealed by neurophysiological studies of motor and sensory functions. *Expert Rev Neurother.* 2017;17(2):181-192.
- 58) Marsili L, Suppa A, Di Stasio F, Belvisi D, Upadhyay N, Berardelli I, Pasquini M, Petrucci S, Ginevrino M, Fabbrini G, Cardona F, Defazio G, Berardelli A. BDNF and LTP-/LTD-like plasticity of the primary motor cortex in Gilles de la Tourette syndrome. *Exp Brain Res.* 2017;235(3):841-850.
- 59) Belvisi D, Conte A, Bologna M, Bloise MC, Suppa A, Formica A, Costanzo M, Cardone P, Fabbrini G, Berardelli A. Re-emergent tremor in Parkinson's disease. *Parkinsonism Relat Disord.* 2017; 36:41-46.
- 60) Camerota F, Suppa A, De Fino C, Celletti C, Nociti V. Response to the letter to the Editor for the manuscript 'Focal muscle vibration, an effective rehabilitative approach in severe gait impairment due to multiple sclerosis' by Nardone et al. *J Neurol Sci.* 2017;375:488.
- 61) Upadhyay N, Suppa A, Piattella MC, Gianni C, Bologna M, Di Stasio F, Petsas N, Tona F, Fabbrini G, Berardelli A, Pantano P. Functional disconnection of thalamic and cerebellar dentate nucleus networks in progressive supranuclear palsy and corticobasal syndrome. *Parkinsonism Relat Disord.* 2017. pii: S1353-8020(17)30103-7.
- 62) Lopez S, Bini F, Del Percio C, Marinozzi F, Celletti C, Suppa A, Ferri R, Staltari E, Camerota F, Babiloni C. Electroencephalographic sensorimotor rhythms are modulated in the acute phase following focal vibration in healthy subjects. *Neuroscience.* 2017; 352:236-248.
- 63) Suppa A, Leone C, Di Stasio F, Marsili L, Di Santo A, Biasiotta A, La Cesa S, Truini A, Cruccu G, Berardelli A. Pain-motor integration in the primary motor cortex in Parkinson's disease. *Brain Stimul.* 2017 Jul - Aug;10(4):806-816. doi: 10.1016/j.brs.2017.04.130.
- 64) Bharti K, Bologna M, Upadhyay N, Piattella MC, Suppa A, Petsas N, Gianni C, Tona F, Berardelli A, Pantano P. Abnormal Resting-State Functional Connectivity in Progressive Supranuclear Palsy and Corticobasal Syndrome. *Front Neurol.* 2017 Jun 6; 8:248. doi: 10.3389/fneur.2017.00248.
- 65) Bologna M, Suppa A, Di Stasio F, Conte A, Fabbrini G, Berardelli A. Neurophysiological studies on atypical parkinsonian syndromes. *Parkinsonism Relat Disord.* 2017 Sep; 42:12-21. doi: 10.1016/j.parkreldis.2017.06.017.
- 66) Bologna M, Bertram K, Paparella G, Papi C, Belvisi D, Conte A, Suppa A, Williams DR, Berardelli A. Reversal of long-term potentiation-like plasticity in primary motor cortex in patients with progressive supranuclear palsy. *Clin Neurophysiol.* 2017 Sep;128(9):1547-1552. doi: 10.1016/j.clinph.2017.06.032.
- 67) Ferrazzano G, Berardelli I, Conte A, Suppa A, Fabbrini G, Berardelli A. Interoceptive sensitivity in patients with cervical dystonia. *Parkinsonism Relat Disord.* 2017 Nov; 44:129-132. doi: 10.1016/j.parkreldis.2017.08.019.
- 68) Suppa A, Kita A, Leodori G, Zampogna A, Nicolini E, Lorenzi P, Rao R, Irrera F. I-DOPA and Freezing of Gait in Parkinson's Disease: Objective Assessment through a Wearable Wireless System. *Front Neurol.* 2017 Aug 14; 8:406. doi: 10.3389/fneur.2017.00406.
- 69) Suppa A, Quartarone A, Siebner H, Chen R, Di Lazzaro V, Del Giudice P, Paulus W, Rothwell JC, Ziemann U, Classen J. The associative brain at work: Evidence from paired associative stimulation studies in humans. *Clin Neurophysiol.* 2017 Nov;128(11):2140-2164. doi: 10.1016/j.clinph.2017.08.003.
- 70) Huang YZ, Lu MK, Antal A, Classen J, Nitsche M, Ziemann U, Ridding M, Hamada M, Ugawa Y, Jaberzadeh S, Suppa A, Paulus W, Rothwell J. Plasticity induced by non-invasive transcranial brain stimulation: A position paper. *Clin Neurophysiol.* 2017 Nov;128(11):2318-2329. doi: 10.1016/j.clinph.2017.09.007.
- 71) Conte A, Ferrazzano G, Belvisi D, Manzo N, Suppa A, Fabbrini G, Berardelli A. Does the Somatosensory Temporal Discrimination Threshold Change over Time in Focal Dystonia? *Neural Plast.* 2017; 2017:9848070. doi: 10.1155/2017/9848070.
- 72) Guerra A, Suppa A, Bologna M, D'Onofrio V, Bianchini E, Brown P, Di Lazzaro V, Berardelli A. Boosting the LTP-like plasticity effect of intermittent theta-burst stimulation using gamma transcranial alternating current stimulation. *Brain Stimul.* 2018. doi: 10.1016/j.brs.2018.03.015.
- 73) Pietracupa S, Suppa A, Upadhyay N, Gianni C, Grillea G, Leodori G, Modugno N, Di Biasio F, Zampogna A, Colonnese C, Berardelli A, Pantano P. Freezing of gait in Parkinson's disease: gray and white matter abnormalities. *J Neurol* 2018; 265: 52-62.
- 74) Di Santo A, Asci F, Suppa A. Pain-motor integration and chronic pain: One step ahead. *Clin Neurophysiol.* 2018;129(5):1051-1052. doi: 10.1016/j.clinph.2018.02.005.
- 75) Palermo E, Suppa A. Deep Brain Stimulation and Motor Synergies in Parkinson's Disease. *Clin Neurophysiol.* 2018; doi: <https://doi.org/10.1016/j.clinph.2018.03.023>.
- 76) Irrera F, Cabestany J, Suppa A. New Advanced Wireless Technologies for Objective Monitoring of Motor Symptoms in Parkinson's Disease. *Frontiers in neurology.* 2018; <https://doi.org/10.3389/fneur.2018.00216>.

- 77) Mancini C, Cardona F, Baglioni V, Panunzi S, Pantano P, Suppa A, Mirabella G. Inhibition is impaired in children with obsessive-compulsive symptoms but not in those with tics. *Movement Disorders* 2018; doi: 10.1002/mds.27406.
- 78) Mazzetta I, Gentile P, Pessione M, Suppa A, Zampogna A, Bianchini E, Irrera F. Stand-Alone Wearable System for Ubiquitous Real-Time Monitoring of Muscle Activation Potentials. *Sensors (Basel)*. 2018;18(6). pii: E1748. doi: 10.3390/s18061748.
- 79) Di Stasio F, Suppa A, Fabbrini A, Marsili L, Asci F, Conte A, Trebbastoni A, De Lena C, Berardelli A. Parkinsonism is associated with altered primary motor cortex plasticity in frontotemporal dementia-primary progressive aphasia variant. *Neurobiol Aging*. 2018; 69:230-238.
- 80) Belvisi D, Conte A, Cortese FN, Tartaglia M, manzo N, Li Voti P, Suppa A, Berardelli A. Voluntary Movement Takes Shape: The Link Between Movement Focusing and Sensory Input Gating. *Front Hum Neurosci* 2018; doi: 10.3389/fnhum.2018.00330.
- 81) Vivacqua G, Mancinelli R, Belvisi D, Suppa A, Berardelli A. Detection of alpha-Synuclein in Saliva: The Importance of Preanalytical Assessment. *Mov Disorders* 2018; doi: 10.1002/mds.27423.
- 82) Di Stasio F, Suppa A, Berardelli A. Frontotemporal dementia: a neurophysiological study. *Aging (Albany NY)*. 2018 Oct 18;10(10):2547-2548.
- 83) Belvisi D, Berardelli I, Suppa A, Fabbrini A, Pasquini M, Pompili M, Fabbrini G. Neuropsychiatric disturbances in atypical parkinsonian disorders. *Neuropsychiatr Dis Treat*. 2018 Oct 9; 14:2643-2656.
- 84) Rocchi L, Suppa A, Leodori G, Celletti C, Camerota F, Rothwell J, Berardelli A. Plasticity Induced in the Human Spinal Cord by Focal Muscle Vibration. *Front Neurol*. 2018 Nov 2; 9:935. doi: 10.3389/fneur.2018.00935.
- 85) Di Stasio F, Suppa A, Marsili L, Upadhyay N, Asci F, Bologna M, Colosimo C, Fabbrini G, Pantano P, Berardelli A. Corticobasal Syndrome: Neuroimaging and Neurophysiological Advances. *Eur J Neurol*. 2019 May;26(5):701-e52. doi: 10.1111/ene.13928.
- 86) Mazzetta I, Zampogna A, Suppa A, Gumiero A, Pessione M, Irrera F. Wearable Sensors System for an Improved Analysis of Freezing of Gait in Parkinson's Disease Using Electromyography and Inertial Signals. *Sensors*. 2019;19(4). pii: E948. doi: 10.3390/s19040948.
- 87) Vivacqua G, Suppa A, Mancinelli R, Belvisi D, Fabbrini A, Costanzo M, Formica A, Onori P, Fabbrini G, Berardelli A. Salivary alpha-synuclein in the diagnosis of Parkinson's disease and Progressive Supranuclear Palsy. *Parkinsonism Relat Disord*. 2019; pii: S1353-8020(19)30060-4. doi: 10.1016/j.parkreldis.2019.02.014.
- 88) Bharti K, Suppa A, Pietracupa S, Upadhyay N, Gianni C, Leodori G, Di Biasio F, Modugno N, Petsas N, Grillea G, Zampogna A, Berardelli A, Pantano P. Aberrant functional connectivity in patients with Parkinson's disease and freezing of gait: a within- and between-network analysis. *Brain Imaging Behav*. 2019 Mar 19. doi: 10.1007/s11682-019-00085-9.
- 89) Leodori G, Suppa A. Rising solutions for secondary treatment failure in patients on chronic botulinum neurotoxin therapy. *Clin Neurophysiol*. 2019. pii: S1388-2457(19)30087-2. doi: 10.1016/j.clinph.2019.03.002.
- 90) Bharti K, Suppa A, Pietracupa S, Upadhyay N, Gianni C, Leodori G, Di Biasio F, Modugno N, Petsas N, Grillea G, Zampogna A, Berardelli A, Pantano P. Abnormal Cerebellar Connectivity Patterns in Patients with Parkinson's Disease and Freezing of Gait. *Cerebellum*. 2019 Jun;18(3):298-308. doi: 10.1007/s12311-018-0988-4. PMID: 30392037.
- 91) Bologna M, Guerra A, Paparella G, Colella D, Borrelli A, Suppa A, Di Lazzaro V, Brown P, Berardelli A. Transcranial Alternating Current Stimulation Has Frequency-Dependent Effects on Motor Learning in Healthy Humans. *Neuroscience*. 2019. pii: S0306-4522(19)30371-9. doi: 10.1016/j.neuroscience.2019.05.041.
- 92) Guerra A, Suppa A, D'Onofrio V, Di Stasio F, Asci F, Fabbrini G, Berardelli A. Abnormal cortical facilitation and L-dopa-induced dyskinesia in Parkinson's disease. *Brain Stimul*. 2019 Jun 11. pii: S1935-861X (19)30263-3. doi: 10.1016/j.brs.2019.06.012.
- 93) Guerra A, Suppa A, Asci F, De Marco G, D'Onofrio V, Bologna M, Di Lazzaro V, Berardelli A. LTD-like plasticity of the human primary motor cortex can be reversed by γ -tACS. *Brain Stimul*. 2019 Jul 3. pii: S1935-861X (19)30287-6. doi: 10.1016/j.brs.2019.06.029.
- 94) Corbett MA, Kroes T, Veneziano L, Bennett MF, Florian R, Schneider AL, Coppola A, Licchetta L, Franceschetti S, Suppa A, et al. Intronic ATTTTC repeat expansions in STARD7 in familial adult myoclonic epilepsy linked to chromosome 2. *Nat Commun*. 2019 Oct 29;10(1):4920. doi: 10.1038/s41467-019-12671-y.
- 95) Fabbrini G, Fabbrini A, Suppa A. Progressive supranuclear palsy, multiple system atrophy and corticobasal degeneration. *Handb Clin Neurol*. 2019; 165:155-177. doi: 10.1016/B978-0-444-64012-3.00009-5.

- 96) Bharti K, Suppa A, Tommasin S, Zampogna A, Pietracupa S, Berardelli A, Pantano P. Neuroimaging advances in Parkinson's disease with freezing of gait: A systematic review. *Neuroimage Clin.* 2019; 24:102059. doi: 10.1016/j.nicl.2019.102059.
- 97) Mileti I, Taborri J, Rossi S, Del Prete Z, Paoloni M, Suppa A, Palermo E. Reactive Postural Responses to Continuous Yaw Perturbations in Healthy Humans: The Effect of Aging. *Sensors (Basel).* 2019 Dec 20;20(1). pii: E63. doi: 10.3390/s20010063.
- 98) Zampogna A, Manoni A, Asci F, Liguori C, Irrera F, Suppa A. Shedding Light on Nocturnal Movements in Parkinson's Disease: Evidence from Wearable Technologies. *Sensors (Basel).* 2020 Sep 10;20(18):5171.
- 99) Tikoo S, Cardona F, Tommasin S, Gianni C, Conte G, Upadhyay N, Mirabella G, Suppa A, Pantano P. Resting-state functional connectivity in drug-naive pediatric patients with Tourette syndrome and obsessive-compulsive disorder. *J Psychiatr Res.* 2020 Oct; 129:129-140. doi: 10.1016/j.jpsychires.2020.06.021.
- 100) Asci F, Costantini G, Di Leo P, Zampogna A, Ruoppolo G, Berardelli A, Saggio G, Suppa A. Machine-Learning Analysis of Voice Samples Recorded through Smartphones: The Combined Effect of Ageing and Gender. *Sensors (Basel).* 2020 Sep 4;20(18):5022.
- 101) Ferreira SI, Cinnirella G, Ramos L, Suppa A, Pires LM, Nardone AM, Camerota L, Lanciotti S, Galasso C, De Maio F, de Melo JB, Carreira IM, Brancati F. Tremor is a major feature of 9p13 deletion syndrome. *Am J Med Genet A.* 2020 Sep 8. doi: 10.1002/ajmg.a.61807.
- 102) Mirabella G, Upadhyay N, Mancini C, Gianni C, Panunzi S, Petsas N, Suppa A, Cardona F, Pantano P. Corrigendum to "Loss in grey matter in a small network of brain areas underpins poor reactive inhibition in Obsessive-Compulsive Disorder patients" [*Psychiatry Research: Neuroimaging* 297 (2020) 111044]. *Psychiatry Res Neuroimaging.* 2020 Aug 18:111156. doi: 10.1016/j.psychresns.2020.111156. Epub ahead of print. Erratum for: *Psychiatry Res Neuroimaging.* 2020 Feb 12; 297:111044.
- 103) Schirinzi T, Canevelli M, Suppa A, Bologna M, Marsili L. The continuum between neurodegeneration, brain plasticity, and movement: a critical appraisal. *Rev Neurosci.* 2020 Oct 25;31(7):723-742.
- 104) Zampogna A, Mileti I, Palermo E, Celletti C, Paoloni M, Manoni A, Mazzetta I, Dalla Costa G, Pérez-López C, Camerota F, Leocani L, Cabestany J, Irrera F, Suppa A. Fifteen Years of Wireless Sensors for Balance Assessment in Neurological Disorders. *Sensors (Basel).* 2020 Jun 7;20(11):3247.
- 105) Mileti I, Zampogna A, Santuz A, Asci F, Del Prete Z, Arampatzis A, Palermo E, Suppa A. Muscle Synergies in Parkinson's Disease. *Sensors (Basel).* 2020 Jun 5;20(11):3209.
- 106) Guerra A, Asci F, D'Onofrio V, Sveva V, Bologna M, Fabbrini G, Berardelli A, Suppa A. Enhancing Gamma Oscillations Restores Primary Motor Cortex Plasticity in Parkinson's Disease. *J Neurosci.* 2020 Jun 10;40(24):4788-4796.
- 107) Guerra A, Ranieri F, Falato E, Musumeci G, Di Santo A, Asci F, Di Pino G, Suppa A, Berardelli A, Di Lazzaro V. Detecting cortical circuits resonant to high-frequency oscillations in the human primary motor cortex: a TMS-tACS study. *Sci Rep.* 2020 May 6;10(1):7695. doi: 10.1038/s41598-020-64717-7.
- 108) Guerra A, López-Alonso V, Cheeran B, Suppa A. Variability in non-invasive brain stimulation studies: Reasons and results. *Neurosci Lett.* 2020 Feb 6; 719:133330.
- 109) Guerra A, López-Alonso V, Cheeran B, Suppa A. Solutions for managing variability in non-invasive brain stimulation studies. *Neurosci Lett.* 2020 Feb 6; 719:133332.
- 110) Suppa A, Fabbrini A, Guerra A, Petsas N, Asci F, Di Stasio F, Trebbastoni A, Vasselli F, De Lena C, Pantano P, Berardelli A. Altered speech-related cortical network in frontotemporal dementia. *Brain Stimul.* 2020 May-Jun;13(3):765-773.
- 111) Suppa A, Asci F, Saggio G, Marsili L, Casali D, Zarezadeh Z, Ruoppolo G, Berardelli A, Costantini G. Voice analysis in adductor spasmodic dysphonia: Objective diagnosis and response to botulinum toxin. *Parkinsonism Relat Disord.* 2020 Apr; 73:23-30.
- 112) Celletti C, Suppa A, Bianchini E, Lakin S, Toscano M, La Torre G, Di Piero V, Camerota F. Promoting post-stroke recovery through focal or whole-body vibration: criticisms and prospects from a narrative review. *Neurol Sci.* 2020 Jan;41(1):11-24.
- 113) Bharti K, Suppa A, Pietracupa S, Upadhyay N, Gianni C, Leodori G, Di Biasio F, Modugno N, Petsas N, Grillea G, Zampogna A, Berardelli A, Pantano P. Aberrant functional connectivity in patients with Parkinson's disease and freezing of gait: a within- and between-network analysis. *Brain Imaging Behav.* 2020 Oct;14(5):1543-1554.
- 114) Guerra A, Asci F, Zampogna A, D'Onofrio V, Petrucci S, Ginevrino M, Berardelli A, Suppa A. Gamma-transcranial alternating current stimulation and theta-burst stimulation: inter-subject variability and the role of BDNF. *Clin Neurophysiol.* 2020 Nov;131(11):2691-2699. doi: 10.1016/j.clinph.2020.08.017.
- 115) Bianchini E, Mancuso M, Zampogna A, Guerra A, Suppa A. Cardiac cycle does not affect motor evoked potential variability: A real-time EKG-EMG study. *Brain Stimul.* 2020 Dec 23;14(1):170-172. doi: 10.1016/j.brs.2020.12.009. Epub ahead of print.

- 116) Borzi L, Mazzetta I, Zampogna A, Suppa A, Olmo G, Irrera F. Prediction of Freezing of Gait in Parkinson's Disease Using Wearables and Machine Learning. *Sensors (Basel)*. 2021 Jan 17;21(2): E614.
- 117) Piano C, Bove F, Tufo T, Imbimbo I, Genovese D, Stefani A, Marano M, Peppe A, Brusa L, Cerroni R, Motolese F, Di Stasio E, Mazza M, Daniele A, Olivi A, Calabresi P, Bentivoglio AR; Lazio DBS Study Group. Effects of COVID-19 Lockdown on Movement Disorders Patients with Deep Brain Stimulation: A Multicenter Survey. *Front Neurol*. 2020 Dec 16; 11:616550. doi: 10.3389/fneur.2020.616550.
- 118) Guerra A, Asci F, Zampogna A, D'Onofrio V, Berardelli A, Suppa A. The effect of gamma oscillations in boosting primary motor cortex plasticity is greater in young than older adults. *Clin Neurophysiol*. 2021 Jun;132(6):1358-1366.
- 119) Asci F, Costantini G, Saggio G, Suppa A. Fostering Voice Objective Analysis in Patients with Movement Disorders. *Mov Disord*. 2021 Apr;36(4):1041.
- 120) Suppa A, Asci F, Saggio G, Di Leo P, Zarezadeh Z, Ferrazzano G, Ruoppolo G, Berardelli A, Costantini G. Voice Analysis with Machine Learning: One Step Closer to an Objective Diagnosis of Essential Tremor. *Mov Disord*. 2021 Jun;36(6):1401-1410.
- 121) Asci F, Costantini G, Di Leo P, Saggio G, Suppa A. Reply to: "Reproducibility of Voice Analysis with Machine Learning". *Mov Disord*. 2021 May;36(5):1283-1284.
- 122) Guerra A, Colella D, Giangrosso M, Cannavacciuolo A, Paparella G, Fabbrini G, Suppa A, Berardelli A, Bologna M. Driving motor cortex oscillations modulates bradykinesia in Parkinson's disease. *Brain*. 2021 Jul 10;awab257. doi: 10.1093/brain/awab257.
- 123) Ferese R, Campopiano R, Scala S, D'Alessio C, Storto M, Buttari F, Centonze D, Logroscino G, Zecca C, Zampatti S, Fornai F, Cianci V, Manfroi E, Giardina E, Magnani M, Suppa A, Novelli G, Gambardella S. Cohort Analysis of 67 Charcot-Marie-Tooth Italian Patients: Identification of New Mutations and Broadening of Phenotype Expression Produced by Rare Variants. *Front Genet*. 2021 Jul 19;12:682050. doi: 10.3389/fgene.2021.682050.
- 124) Zampogna A, Mileti I, Martelli F, Paoloni M, Del Prete Z, Palermo E, Suppa A. Early balance impairment in Parkinson's Disease: Evidence from Robot-assisted axial rotations. *Clin Neurophysiol*. 2021 Oct;132(10):2422-2430. doi: 10.1016/j.clinph.2021.06.023.
- 125) Cruccu G, Suppa A. Improving drug-resistant chronic neuropathic pain with Non-invasive brain stimulation. *Clin Neurophysiol*. 2021 Oct;132(10):2673-2674. doi: 10.1016/j.clinph.2021.07.015.
- 126) Kinoshita M, Suppa A. Gear up for therapeutic application of non-invasive brain stimulation in Parkinson's disease. *Clin Neurophysiol*. 2021 Sep 1:S1388-2457(21)00712-4. doi: 10.1016/j.clinph.2021.08.009.
- 127) Tikoo S, Suppa A, Tommasin S, Gianni C, Conte G, Mirabella G, Cardona F, Pantano P. The Cerebellum in Drug-naive Children with Tourette Syndrome and Obsessive-Compulsive Disorder. *Cerebellum*. 2021 Sep 30. doi: 10.1007/s12311-021-01327-7.
- 128) Costantini G., Di Leo P., Asci F., Zarezadeh Z., Marsili L., Errico V., Suppa A. and Saggio G. (2021). Machine Learning based Voice Analysis in Spasmodic Dysphonia: An Investigation of Most Relevant Features from Specific Vocal Tasks. In Proceedings of the 14th International Joint Conference on Biomedical Engineering Systems and Technologies - Volume 2: BIOSIGNALS, ISBN 978-989-758-490-9, pages 103-113. DOI:10.5220/0010344601030113
- 129) Suppa A, Asci F, Guerra A. TMS as a Tool to Induce and Explore Plasticity in Humans. *Neuroplasticity*. *Handb Clin Neurol* edited by A. Quartarone and M.F. Ghilardi. In Press.
- 130) Fayad R, Costantini C, Zarezadeh Z, Errico V, Suppa A, Asci F, Saggio G, Hajj-Hassan M. Vocal Test Analysis for the Assessment of Adductor-type Spasmodic Dysphonia. *IEEE 2021 sixth International Conference on Advances in Biomedical Engineering (ICABME)*. In Press.
- 131) Suppa A. Rewiring Brains in Parkinson's Disease: The New Era of Brain Stimulation. *Mov Disord*. 2021. In Press