Curriculum Vitae Europass

Personal information

Surname / First name	**Zampogna Alessandro**

Title | **MD, Neurologist, PhD candidate**

Occupational field | **Experimental and Clinical Neuroscience, Neurodegenerative Diseases, Movement Disorders, Wearable Technologies**

Work Experience (Clinical Activity)

Dates
Position held

Jul 2022 – Present
"Site sub-investigator" (Phase III clinical trials for Alzheimer's disease, including: Embark 221AD304, Sponsor: Biogen; BAN2401-G00-301, Sponsor: Eisai; Alector AL002-2, Sponsor: Alector; Post-Graduate WN42171, Sponsor: F. Hoffmann La Roche; Envision 221AD305, Sponsor: Biogen; CELIA, Sponsor: Biogen; Alector-AL002-LTE, Sponsor: Alector; Gabriella, Sponsor: Roche; PRImus-AD, Sponsor: PRInnovation GmbH).
Center for Cognitive Impairment and Dementia, Department of Human Neurosciences, Policlinico Umberto I, Rome, Italy. PI: Prof. Giuseppe Bruno.

Dates
Position held

Jan 2022 – Present
Freelance neurology consultant, Rome, Italy.

Dates
Position held

05/2021-07/2021
Clinical fellow, Movement Disorders Unit, Centre Hospitalier Universitaire Grenoble Alpes, Grenoble, France. Supervisor: Prof. Elena Moro (emoro@chu-grenoble.fr).

Dates
Position held

2020 – 2021
"Site sub-investigator" at Phase 3 Multicenter Study of TD-9855 in Treating Symptomatic Neurogenic Orthostatic Hypotension in Subjects with Primary Autonomic Failure - Theravance Biopharma. PI: Prof. Giovanni Fabbrini.

Dates
Position held

2019 – 2021
Resident doctors' affairs representative, Department of Human Neurosciences, Sapienza University of Rome, Italy.

Dates
Position held

29/12/2017 – 29/12/2021
Residency in Neurology, Department of Human Neurosciences, Sapienza University of Rome, Italy.

Dates
Position held

Jun 2017 – Dec 2017
Primary care physician (i.e., locum doctor) at Vibo Valentia local health district, Italy.

Education

Dates	17-18 November 2023 8th Advanced Parkinson's Disease (APD) Summit. Prague (PRG), Chzeck Republic.
Dates	18-21 November 2022 10th Advanced Course On Diagnosis and Treatment of Movement Disorders (Faculty: Prof A. Espay, Prof. A. Fasano, Prof. F. Morgante), Naples (Na), Italy.
Dates	02-08 April 2022 "XX Basic Course in EMG and Evoked Potentials", Italian Society of Clinical Neurophysiology, Sorrento (NA), Italy.
Dates	03-04 March 2022 "Course on directional systems programming", Boston Scientific, Milan, Italy.
Dates Position held	Nov 2021 – ongoing PhD fellow in Clinical and Experimental Neurosciences and Psychiatry, Department of Human Neurosciences, Sapienza University of Rome, Italy. Supervisor: Prof. Antonio Suppa.
Dates	30-31/10/2021 "Advanced Applied Statistics and Research Methodology for Medical and Social Sciences". Neocortex ETS, Rome, Italy.
Dates	17-18/09/2021 and 08-09/10/2021 "High School of Movement Disorders", Academy for the study of Parkinson's disease and movement disorders (LIMPE-DISMOV), Salerno and Turin, Italy.
Dates	06/2021 "Applied Statistics and Research Methodology for Medical and Social Sciences" course, Neocortex ETS, Rome, Italy.
Dates	11/2020 MDS-ES Virtual School for Young Neurologists. International Parkinson and Movement Disorder Society (MDS).
Dates	07-08/2020 "Virtual Aspen Course in Movement Disorders, A Comprehensive Review of Movement Disorders for the Clinical Practitioner". International Parkinson and Movement Disorder Society (MDS).
Dates Position held	29/12/2017 – 11/01/2022 Residency and Specialization in Neurology, Department of Human Neurosciences, Sapienza University of Rome, Italy. Title of Dissertation: "Axial Impairment in Parkinson's Disease: Multimodal Assessment of Gait and Balance". Final mark: 70/70. Supervisor: Prof. Alfredo Berardelli. Co-Supervisor: Prof. Antonio Suppa.
Dates Title of qualification	03/2017 Professional Qualification as Medical Doctor (OMCEOVV 1488).
Dates Title of qualification	2010 - 2016 Master Degree in Medicine and Surgery (summa cum laude), faculty of Medicine and Surgery, Sapienza University of Rome, Italy. Title of Dissertation: "Kinematic study of Freezing of Gait in Parkinson's Disease by means of Magnetic-Inertial Sensors". Supervisor: Prof. Alfredo Berardelli; Co-Supervisor: Prof. Antonio Suppa.
Dates Title of qualification	2014 – 2016 "Excellence Path" student, Sapienza University of Rome, Italy (i.e. extracurricular academic programme for worthy students to be involved in research activities).
Dates Title of qualification	2005 - 2010 Upper secondary education diploma (specialization: Classical Lyceum; final mark 100/100), Liceo Classico M. Morelli, Vibo Valentia, Italy.

Personal skills and competencies

Mother tongue(s)	**Italian**
Other language(s)	**English**

European level (*)	Understanding				Speaking				Writing	
English	Listening		Reading		Spoken interaction		Spoken production			
	B2	Upper-Intermediate	C1	Advanced	B2	Upper-Intermediate	B2	Upper-Intermediate	C1	Advanced

Grants, Awards and Honours

Dates	04/2024 Recipient of the ERASMUS+ "Short Mobility" Study Scholarship for the Academic Year 2024-2025.
Dates	02/2024 Winner of the "Youth and Research Project" award (participation grant), 10th national congress of the Academy for the study of Parkinson's disease and movement disorders (LIMPE-DISMOV). Title of the research: "Disentangling Bradykinesia and Rigidity in Parkinson's disease: Long-term Evidence from STN-DBS".
Dates	11/2023 Winner of the "Sapienza Ricerca - Bando Ateneo 2023" grant, Sapienza University of Rome, Italy. Title of the research: "Impact of L-Dopa/Carbidopa intestinal gel and deep brain stimulation on motor disorders in Parkinson's disease: study of body topography through a network of wearable sensors".
Dates	05/2023 Winner of the "young authors award", 67th national congress of the Italian Society of Clinical Neurophysiology (SINC) for the best oral communication. Title of the research: "Muscle synergies during gait in Parkinson's disease".
Dates	03/2023 Winner of the "Youth and Research Project" award (participation grant), 9th national congress of the Academy for the study of Parkinson's disease and movement disorders (LIMPE-DISMOV). Title of the research: "Muscle synergies during gait in Parkinson's disease".
Dates	10/2022 Winner of the "Sapienza Ricerca - Bando Ateneo 2022" grant, Sapienza University of Rome, Italy. Title of the research: "Boosting Telemedicine in Parkinson's disease: the innovative contribution of Wearable Sensors and Artificial Intelligence".
Dates	10/2022 Winner of the "Sapienza Ricerca - Bando Ateneo 2022" grant, Sapienza University of Rome, Italy. Title of the research: "Long-term monitoring of motor fluctuations in Parkinson's disease: an innovative approach with wearable sensors".
Dates	07/2022 Winner of the "Youth and Research Project" award (participation grant), 8th national congress of the Academy for the study of Parkinson's disease and movement disorders (LIMPE-DISMOV). Title of the research: "Axial impairment and falls in Parkinson's disease: 15 years of subthalamic deep brain stimulation".
Dates	10/2021 Scholarship winner for the XXXVII PhD cycle in "Clinical and Experimental Neurosciences and Psychiatry", Sapienza University of Rome, Italy.
Dates	09/2021 Winner of the "Youth and Research Project" award (participation grant), 7th National Congress of the Academy for the study of Parkinson's disease and movement disorders (LIMPE-DISMOV). Title of the research: "Spinal excitability and plasticity in hereditary spastic paraparesis: a neurophysiological study".
Dates	09/2021

	Winner of the "young authors award", 65th national congress of the Italian Society of Clinical Neurophysiology (SINC). Title of the research: "Spinal excitability and plasticity in hereditary spastic paraparesis: a neurophysiological study".
Dates	08/2021 – Present Reviewer Board Member of *Journal of Clinical Medicine*, Open Access Journals from MDPI (ISSN: 2077-0383).
Dates	12/2020 Winner of the "Clinical Fellowship Programme 2021" grant, European Academy of Neurology (EAN), Vienna, Austria.
Dates	10/2020 Winner of the "Sapienza Ricerca - Bando Ateneo 2020" grant, Sapienza University of Rome, Italy. Title of the research: "The pathophysiology of freezing of gait in Parkinson's disease: an innovative study with wearable sensors and the analysis of muscle synergies".
Dates	2020 – Present Resident and Research Member of the European Academy of Neurology (EAN).
Dates	2020 – Present Reviewer Board Member of *Sensors* and *Applied Sciences*, Open Access Journals from MDPI (ISSN 1424-8220 and 2076-3417, respectively).
Dates	2020 – Present Member of the Italian Academy for the Study of Parkinson's Disease and Movement Disorders (LIMPE-DISMOV).
Dates	10/2019 Winner of the "Sapienza Ricerca - Bando Ateneo 2019" grant, Sapienza University of Rome, Italy. Title of the research: "Reactive postural strategies in patients with Parkinson's Disease: a dynamic posturography with wearable sensors".
Dates	07/2019 Winner of the "youth project" grant from the Italian Neurology Society, 50th national congress, Bologna, 12-15th Oct 2019.
Dates	06/2019 Winner of the "young authors award", 64th national congress of the Italian Society of Clinical Neurophysiology (SINC) for the best Poster in the Movement Disorders Session. Title of the research: "Balance assessment by means of wearable sensors in Parkinson's disease".
Dates	2019 – Present Member of the Italian Society of Clinical Neurophysiology (SINC).
Dates	2018 – Present Member of the Italian Society of Neurology (SIN).
Dates	05/2017 "Excellent graduate", Sapienza University of Rome, Italy (i.e., one of the most meritorious student of Sapienza University of Rome in the academic year 2015/2016).

List of Publications

Zampogna A, Borzì L, Soares C, Demrozi F. Editorial: High-Tech Personalized Healthcare in Movement Disorders. Front. Neurol. 2024; 15:1452612. doi: 10.3389/fneur.2024.1452612

Zampogna A, Suppa A, Bove F, Cavallieri F, Castrioto A, Meoni S, Pelissier P, Schmitt E, Chabardes S, Fraix V, Moro E. Disentangling Bradykinesia and Rigidity in Parkinson Disease: Evidence from Short- and Long-Term Subthalamic Nucleus Deep Brain Stimulation. Ann Neurol. 2024. doi: 10.1002/ana.26961

Zampogna A, Borzì L, Rinaldi D, Artusi CA, Imbalzano G, Patera M, Lopiano L, Pontieri F, Olmo G, Suppa A. Unveiling the Unpredictable in Parkinson's Disease: Sensor-Based Monitoring of Dyskinesias and Freezing of Gait in Daily Life. Bioengineering. 2024; 11(5):440. https://doi.org/10.3390/bioengineering11050440

Irrera F, Gumiero A, **Zampogna A**, Boscari F, Avogaro A, Gazzanti Pugliese di Cotrone M.A, Patera M, Della Torre L, Picozzi N, Suppa A. Multisensor Integrated Platform Based on MEMS

Charge Variation Sensing Technology for Biopotential Acquisition. Sensors 2024, 24, 1554. https://doi.org/10.3390/s24051554

Ferese R, Scala S, Suppa A, Campopiano R, Asci F, **Zampogna A** et al., Cohort analysis of novel SPAST variants in SPG4 patients and implementation of in vitro and in vivo studies to identify the pathogenic mechanism caused by splicing mutations. Front Neurol. 2023; 14:1296924. doi: 10.3389/fneur.2023.1296924.

Bianchini E, Galli S, Alborghetti M, De Carolis L, **Zampogna A**, Hansen C, Vuillerme N, Suppa A, Pontieri FE. Four Days Are Enough to Provide a Reliable Daily Step Count in Mild to Moderate Parkinson's Disease through a Commercial Smartwatch. Sensors (Basel). 2023;23(21):8971. doi: 10.3390/s23218971.

Suppa A, Asci F, Costantini G, Bove F, Piano C, Pistoia F, Cerroni R, Brusa L, Cesarini V, Pietracupa S, Modugno N, **Zampogna A** et al., Effects of deep brain stimulation of the subthalamic nucleus on patients with Parkinson's disease: a machine-learning voice analysis. Front Neurol. 2023;14:1267360. doi: 10.3389/fneur.2023.1267360

Asci F, Di Stefano G, Di Santo A, Bianchini E, Leone C, La Cesa S, **Zampogna A,** Cruccu G, Suppa A. Pain-motor integration in chronic pain: A neurophysiological study. Clin Neurophysiol. 2023;154:107-115. doi: 10.1016/j.clinph.2023.07.010

Pietrosanti L, Calado A, Maria Verrelli C, Pisani A, Suppa A, Fattapposta F, **Zampogna A**, Patera M, Rosati V, Giannini F, Saggio G. Harmonic Distortion Aspects in Upper Limb Swings during Gait in Parkinson's Disease. Electronics 2023, 12(3), 625; https://doi.org/10.3390/electronics12030625

Asci F, Falletti M, **Zampogna A**, Patera M, Hallett M, Rothwell J, Suppa A. Rigidity in Parkinson's disease: Evidence from biomechanical and neurophysiological measures. Brain. 2023; 5:awad114. doi:10.1093/brain/awad114

Pietrosanti L, Calado A, Verrelli CM, Pisani A, Suppa A, Fattapposta F, **Zampogna A**, Patera M, Rosati V, Giannini F, et al. Harmonic Distortion Aspects in Upper Limb Swings during Gait in Parkinson's Disease. Electronics 2023,12,625. https://doi.org/10.3390/electronics12030625

Castelli Gattinara Di Zubiena F, Menna G, Mileti I, **Zampogna A**, Asci F, Paoloni M, Suppa A, Del Prete Z, Palermo E. Machine Learning and Wearable Sensors for the Early Detection of Balance Disorders in Parkinson's Disease. Sensors (Basel). 2022; 22:9903. doi: 10.3390/s22249903

Zampogna A, Cavallieri F, Bove F, Suppa A, Castrioto A, Meoni S, Pelissier P, Schmitt E, Bichon A, Lhommee E, Kistner A, Chabardes S, Seigneuret E, Fraix V, Moro E. Axial impairment and falls in Parkinson's disease: 15 years of subthalamic deep brain stimulation. npj Parkinson's Disease (2022) 8:121; https://doi.org/10.1038/s41531-022-00383-y

Ferese R, Scala S, Suppa A, Campopiano R, Asci F, Chiaravalloti MA, **Zampogna A**, D'Alessio C, Fittipaldi F, Buttari F, Di Pardo A, Giardina E, Zampatti S, Fornai F, Novelli G, Fanelli M, Zecca C, Logroscino G, Centonze D, Gambardella S. Decipher non-canonical SPAST splicing mutations with the help of functional assays in patients affected by spastic paraplegia 4 (SPG4). Clin Genet. 2022. doi: 10.1111/cge.14142

Asci F, Scardapane S, **Zampogna A**, D'Onofrio V, Testa L, Patera M, Falletti M, Marsili L, Suppa A. Handwriting Declines with Human Ageing: A Machine Learning Study. Frontiers in Aging Neuroscience 2022, 6;14:889930. doi: 10.3389/fnagi.2022.889930

Manoni A, Gumiero A, **Zampogna A**, Ciarlo C, Panetta L, Suppa A, Della Torre L, Irrera F. Long-Term Polygraphic Monitoring through MEMS and Charge Transfer for Low-Power Wearable Applications. Sensors 2022, 22, 2566. https://doi.org/10.3390/s22072566

Zampogna A, D'Onofrio V, Suppa A. Theta rhythms may support executive functions in Parkinson's disease with freezing of gait. Clinical Neurophysiology 2022, S1388-2457(22)00170-5; https://doi.org/10.1016/j.clinph.2022.02.007

Asci F, Vivacqua G, **Zampogna A**, D'Onofrio V, Mazzeo A, Suppa A. Wearable Electrochemical Sensors in Parkinson's Disease. Sensors 2022, 22(3), 951; https://doi.org/10.3390/s22030951

Borzì L, Mazzetta I, **Zampogna A,** Suppa A, Irrera F, Olmo G. Predicting Axial Impairment in Parkinson's Disease through a Single Inertial Sensor. Sensors (Basel) 2022, 22(2), 412; https://doi.org/10.3390/s22020412

Guerra A, Asci F, **Zampogna A**, D'Onofrio V, Suppa A, Fabbrini G, Berardelli A. Long-term changes in short-interval intracortical facilitation modulate motor cortex plasticity and L-dopa-

induced dyskinesia in Parkinson's disease. Brain Stimulation 2022; 15:99-108.
https://doi.org/10.1016/j.brs.2021.11.016

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; 132(10):2422-2430. doi: 10.1016/j.clinph.2021.06.023

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; s1388-2457(21)00085-7. doi: 10.1016/j.clinph.2021.01.032

Borzì 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; 21(2):614. doi: 10.3390/s21020614

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. 2021; 14(1):170-172. doi: 10.1016/j.brs.2020.12.009

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;131:2691-2699. doi:10.1016/j.clinph.2020.08.017

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; 20:e5171. doi: 10.3390/s20185171

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; 20:e5022. doi:10.3390/s20185022

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; 20:3247. doi:10.3390/s20113247

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; 20:3209. doi:10.3390/s20113209. * co-authorship

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

Bharti K, Suppa A, Pietracupa S, Upadhyay N, Giannì 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. doi:10.1007/s11682-019-00085-9

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 (Basel). 2019; 19:948. doi:10.3390/s19040948

Bharti K, Suppa A, Pietracupa S, Upadhyay N, Giannì 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. 2018; 18:298-308. doi:10.1007/s12311-018-0988-4

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; 18:1748. doi:10.3390/s18061748

Pietracupa S, Suppa A, Upadhyay N, Giannì 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. doi:10.1007/s00415-017-8654-1

Suppa A, Kita A, Leodori G, **Zampogna A**, Nicolini E, Lorenzi P, Rao R, Irrera F. L-Dopa and freezing of gait in Parkinson's disease: objective assessment through a wearable wireless system. Front Neurol. 2017; 8:406. doi:10.3389/fneur.2017.00406

Dichiaro di autorizzare il trattamento dei dati personali indicati nel curriculum ai sensi del D.Lgs. 196/2003, come modificato dal Regolamento UE 679/2016, recepito dal Decreto n.101 del 10/08/2018. Dichiaro che le dichiarazioni in esso contenute sono rese ai sensi del D.P.R. 445/2000.