CURRICULUM VITAE

Name: Danny Adrian Spampinato

Email: dannyadrian.spampinato@unicamillus.org; d.spampinato@hsantalucia.it

Nationality: Italian, United States of America

Scientific Career and Education

2025.09 – Current **Associate Professor in Physiology**
UniCamillus International University of Health Sciences (Rome, IT)

2020.10 – Current **Clinical Research Fellow in Experimental Neuropsychophysiology**
Fondazione Santa Lucia (Rome, IT)
Advisor: Prof. Giacomo Koch

2022.12 – 2024.08 **Assistant Professor in the Department of Human Sciences**
Sapienza University (Rome, IT)

2017.03 – 2020.09 **Postdoctoral Research Fellow in Neurology (MRC Funded)**
University College of London (London, UK)
Advisor: Prof. John C. Rothwell

2010.09 – 2017.02 **Ph.D. in Biomedical Engineering (NIH Funded)**
Johns Hopkins School of Medicine (Baltimore, MD)
Advisor: Dr. Pablo Celnik

2009.06 – 2009.09 **Visiting Research Fellow in Motor Control (Internship, JHMI Funded)**
Johns Hopkins School of Medicine (Baltimore, MD)
Advisor: Dr. Reza Shadmehr

2006.09 – 2010.06 **Bachelor of Science in Biomedical Engineering,**
University of California, Irvine (USA)
Specializations: Neuroscience, Neurophysiology, Movement Control

Scientific Research and Collaborative Projects

03/2023 Research Collaborator in the research project aimed at understanding the effects of cerebellar stimulation on motor and cognitive learning in humans at the University of Sassari, Italy (PI: Franca Deriu)

12/2022 Fixed-term Researcher (RTD-A) within the research project: “Non-Invasive Cerebellar-stimulation to Enhance Motor Behavior after Stroke”, funded by the Ministry of University and Research (MUR) (PI: Danny A Spampinato) at the Department of Human Neurosciences, Sapienza University of Rome

11/2021 Co-Principal Investigator within the research project of the Young Researchers program, Ministry of Health, titled: "Innovative upper limb stroke rehabilitation approach combining myoelectric control assistance in virtual reality and cerebellar TBS plasticity enhancement" (PI: Dr. Denise Berger, Co-PI: Dr. Danny Adrian Spampinato) with the Fondazione Santa Lucia

01/2021 Researcher Collaborator in the project on neuropsychological alterations underlying behavior and cognitive disorders, in collaboration with the Department of

Neurorehabilitation, Hospital of Vipiteno (SABES-ASDAA), Vipiteno-Sterzing, Italy (PI: Viviana Versace).

11/2020 Clinical research contributions to the project on non-invasive brain stimulation for the treatment of cerebrovascular diseases, movement disorders, and Alzheimer's disease at Fondazione Santa Lucia IRCCS in Rome (PI: Prof. Giacomo Koch). (11/2020 – Current)

03/2017 Postdoctoral Fellow in the research project studying the physiological mechanisms underlying plasticity and motor behavior, in collaboration with Prof. John Rothwell (Sobell Department of Motor Neuroscience and Movement Disorders, Institute of Neurology, University College London), entitled "Improving the effectiveness of therapeutic protocols of repetitive transcranial magnetic stimulation (rTMS)", funded by the Medical Research Council (MR/P006671/1). (20/03/17 – 20/08/2020)

01/2014 "Principle Investigator" for the research project titled: "Understanding the physiological role of the cerebellum on human motor learning" funded by the National Institute of Health (NIH), 1F31HD078130-01A1, (PI: Danny A Spampinato, Advisor: Prof. Pablo A Celnik), Johns Hopkins University

01/2014 Research Fellowship within the research project entitled “Investigating neurophysiological mechanisms underlying motor learning”, funded by the National Institute of Health (NIH) through a "Neuroengineering Training Grant (NETG)" (PI: Prof. Nitish Thakor), Johns Hopkins University. (01/2011 – 08/2012)

Publications

Martino Cinnera A, **Spampinato DA**, Pezzopane V, Antonioni A, Fregna G, Baroni A, Casarotto A, Di Lorenzo F, Bonnì S, Straudi S, Koch G (2025) Promoting spike-timing-dependent plasticity via paired associative stimulation: From healthy subjects to clinical applications. Neurosci Biobehav Rev 177:106314.

I Paparella, G Leodori, D Belvisi, G Koch, A Conte, **DA Spampinato** (2025) Theta-frequency tACS selectively enhances early-phase motor learning through cerebellar modulation. Journal of Neurophysiology 134 (2), 610-618.

Leodori G, Ruocco G, Manzo N, **Spampinato D**, Ferrazzano G, Marchet F, Belvisi D, Konczak J, Fabbrini G, Berardelli A, Conte A (2025) Muscle theta activity in the pathophysiology of cervical dystonia. Neurobiology of Disease, 106969.

Antonioni A, Raho EM, **Spampinato D**, Granieri E, Fadiga L, Di Lorenzo F, Koch G (2025) The cerebellum in frontotemporal dementia: From neglected bystander to potential neuromodulatory target. A narrative review. Neuroscience & Biobehavioral Reviews, 106194.

Spampinato D, Casula EP, Koch G (2024) The Cerebellum and the Motor Cortex: Multiple Networks Controlling Multiple Aspects of Behavior. The Neuroscientist. Epub ahead of print.

Ginatempo F, Manzo N, **Spampinato D**, Loi N, Burgio F, Rothwell JC, Deriu F (2023). A Novel Paired Somatosensory-Cerebellar Stimulation Induces Plasticity on Cerebellar-Brain Connectivity. Cerebellum (2023). Epub ahead of print.

Cruciani A, Mancuso M, Sveva V, Maccarrone D, Todisco A, Motolese F, Santoro F, Pilato F, **Spampinato D**, Rocchi L, Di Lazzaro V, Capone F (2023) Using TMS-EEG to assess the effects of neuromodulation techniques: a narrative review. Frontiers in Human Neuroscience. 17:1247104.

Spampinato D, Ibáñez J, Rocchi L, Rothwell J (2023) Motor potentials evoked by transcranial magnetic stimulation: interpreting a simple measure of a complex system. Journal of Physiology. Epub ahead of print

Fong PY, **Spampinato D**, Michell K, Mancuso M, Brown K, Ibáñez J, Alessandro Di Santo, Anna Latorre, Kailash Bhatia, John C Rothwell, Lorenzo Rocchi (2023) EEG responses induced by cerebellar TMS at rest and during visuomotor adaptation. NeuroImage. Epub ahead of print

Casula EP, Borghi I, Maiella M, Pellicciari MC, Bonnì S, Mencarelli L, Assogna M, D'Acunto A, Di Lorenzo F, **Spampinato D**, Santarnecchi E, Martorana A, Koch G (2022) Regional precuneus cortical hyperexcitability in Alzheimer's disease patients. Annals of Neurology. Epub ahead of print.

Casula EP, Pellicciari MC, Bonnì 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 D**, Caltagirone C, Santarnecchi E, Martorana A and Koch G (2022) Decreased Frontal Gamma Activity in Alzheimer Disease Patients. Annals of Neurology. 92:464-475.

Ibáñez J, Zicher B, Brown KE, Rocchi L, Casolo A, Del Vecchio A, **Spampinato D**, Vollette CA, Rothwell JC, Baker SN and Farina D (2022) Standard intensities of transcranial alternating current stimulation over the motor cortex do not entrain corticospinal inputs to motor neurons. Journal of Physiology. Epub ahead of print.

Ortelli P, Ferrazzoli D, Sebastianelli L, Maestri R, Dezi S, **Spampinato D**, Saltuari L, Alibardi A, Kofler M, Quartarone A, Koch G, Oliviero A and Versace V (2022) Altered motor cortex physiology and dysexecutive syndrome in patients with fatigue and cognitive difficulties after mild COVID-19. European Journal of Neurology. 29:1652-1662.

Iannone A, Santiago I, Ajao ST, Brasil-Neto J, Rothwell JC and **Spampinato D** (2022) Comparing the effects of focal and conventional tDCS on motor skill learning: A proof of principle study. Neuroscience Research. 178:83-86.

Rocchi L, **Spampinato D**, Pezzopane V, Orth M, Bisiacchi P, Rothwell JC and Casula EP (2022) Cerebellar noninvasive neuromodulation influences the reactivity of the contralateral primary motor cortex and surrounding areas: a TMS-EMG-EEG study. Cerebellum. Epub ahead of print.

Manto M, Argyropoulos GPD, Bocci T, Celnik PA, Corben LA, Guidetti M, Koch G, Priori A, Rothwell JC, Sadnicka A, **Spampinato D**, Ugawa Y, Wessel MJ and Ferrucci R (2021) Consensus Paper: Novel Directions and Next Steps of Non-invasive Brain Stimulation of the Cerebellum in Health and Disease. Cerebellum. Epub ahead of print.

Fong PY, **Spampinato D**, Rocchi L, Hannah R, Teng Y, Di Santo A, Shoura M, Bhatia K and Rothwell JC (2021) Two forms of short-interval intracortical inhibition in human motor cortex. Brain Stimulation.14:1340-1352.

Amoruso E, Kromm M, **Spampinato D**, Kop B, Muret D, Rothwell J, Rocchi L and Makin TR (2021) Stimulating the deprived motor 'hand' area causes facial muscle responses in one-handers. Brain Stimulation. 14:347-350.

Spampinato D, Avci E, Rothwell JC, and Rocchi L (2021) Frequency-dependent modulation of cerebellar excitability during the application of non-invasive alternating current stimulation. Brain Stimulation. 14, 277-283.

Spampinato D and Celnik P (2021) Multiple motor learning processes in humans: defining their neurophysiological bases. Neuroscientist. Epub ahead of print

Spampinato D, Celnik P, Rothwell JC (2020). Cerebellar-Motor Cortex Connectivity: One or two different networks? *Journal of Neuroscience*, 40:4230-4239.

Spampinato D (2020) Dissecting two distinct interneuronal networks in M1 with transcranial magnetic stimulation. Experimental Brain Research. 238, 1693-1700

Ibáñez J, Fu L, Rocchi L, Spanoudakis M, **Spampinato D**, Farina D and Rothwell JC (2020) Plasticity induced by pairing brain stimulation with motor-related states only targets a subset of cortical neurones. Brain Stimulation. 13:464-466

Spampinato D, Ibáñez J, Hammond P, and Rothwell JC (2020) Cerebellar transcranial magnetic stimulation: A comparison of distinct coils. Brain Stimulation. 13:153-156

Ibáñez J, **Spampinato D**, Paraneetharan V and Rothwell JC (2020) SICI during changing brain states: differences in methodology can lead to different conclusions. Brain Stimulation. 13:353-356

Rocchi L, Latorre A, Ibáñez J, **Spampinato D,** Brown K, Bhatia K and Rothwell JC (2019) A case of congenital hypoplasia of the left cerebellar hemisphere and ipsilateral cortical myoclonus. Movement Disorders. 34:1745-1747

Spampinato D, Satar Z, and Rothwell JC (2019) Combining reward and M1 transcranial direct current stimulation enhances the retention of newly learnt sensorimotor mappings. Brain Stimulation**.** 20(19):30222-30220

Ginatempo F, **Spampinato D,** Manzo N, Rothwell JC and Deriu F (2019) Exploring the connectivity between the cerebellum and facial motor cortex. Brain Stimulation. 20(19):30296-30297

Parrotta I, Maltias M, Rolland Y, Vellas B, **Spampinato D** and P de Souto Barreto (2019) The Association between apathy and frailty in older adults: a new investigation using data from the MAPT study. Aging and Mental Health. 14:1-5

Spampinato D and Celnik P (2018) Deconstructing skill learning and its physiological mechanisms. Cortex 104:90-102

Spampinato D, Block H, and Celnik P (2017) Cerebellar-M1connectivity changes associated to motor learning are somatotopic specific. Journal of Neuroscience 37:2377-2386

Spampinato D and Celnik P (2017) Temporal dynamics of cerebellar and motor cortex physiology processes during motor skill learning. Scientific Reports 7: 40715

Ammann C, **Spampinato D,** and Marquez-Ruiz J (2016) Modulating Motor learning through transcranial direct-current stimulation: an integrative view. Front. Phsychol. 7:1981

Cantarero G**, Spampinato D,** Reis J, Ajagbe L, Thompson T, Kulkarni K, Celnik P (2015) Cerebellar direct current stimulation enhances on-line motor skill acquisition through an effect on accuracy. Journal of Neuroscience 35:3285-3290

Schlerf JE, Galea JM, **Spampinato D,** Celnik PA (2014) Laterality Differences in Cerebellar-Motor Cortex Connectivity. Cerebral Cortex 25:1827-1834

Book Chapters

Koch G, **Spampinato** D (2023) Ataxia in Multiple Sclerosis. Essentials of Cerebellum and Cerebellar Disorders: A Primer for Graduate Students. P 679-684.

Koch G, **Spampinato** D (2022) Alzheimer's disease and neuroplasticity. Handbook of Clinical Neurology. 184:473-479.

Invited Speaker at Scientific Conferences

11/2024 Poster Presentation: Assessing changes in motor plasticity with cerebellar ITB-sTACS. Transcranial Brain Stimulation in Cognitive Neuroscience Workshop, Trento, Italy

02/2023 Oral Presentation: Assessing Changes in Cerebellar Excitability with Noninvasive Alternating Current Stimulation. Brain Stimulation Conference, Lisbon, Portugal

09/2022 Oral Presentation: Simultaneous Transcranial Alternating Current Stimulation and Intermittent Theta-Burst Stimulation Boost Cerebellar-Cortical Interactions in a

Frequency-Dependent Manner. International Congress of Clinical Neurophysiology, Geneva, Switzerland

11/2022 Poster Presentation: Cerebellar transcranial evoked potentials can be reliably recorded with TMS-EEG. Society for Neuroscience, San Diego, CA, USA

06/2022 Poster and Oral Presentation: Simultaneous Transcranial Alternating Current Stimulation and Intermittent Theta-Burst Stimulation Boost Cerebellar-Cortical Interactions in a Frequency-Dependent Manner. Fresco International Workshop, Florence, Italy

12/2021 Oral Presentation: Modulation of cerebellar excitability by frequency-specific noninvasive alternating current stimulation. 4th International Brain Stimulation Conference, Online.

09/2021 Poster Presentation: Dissociating the roles of the motor cortex and cerebellum in muscle pattern organization. Societa Italiana di Psicofisiologia e Neuroscienze, Palermo, Italy

11/2020 Oral Presentation: Understanding how to effectively target the cerebellum with non-invasive brain stim. International Conference on Non-invasive Brain Stimulation, Online.

09/2019 Oral Presentation: Using non-invasive brain stimulation strategies to study mechanisms of motor learning. BrainBox Initiative Conference. London, UK

07/2019 Poster Presentation: Interactions between sort-latency afferent inhibition and cerebellar stimulation in the human motor cortex. Progress in Motor Control, Amsterdam, Netherlands

04/2019 Poster Presentation: Interactions between sort-latency afferent inhibition and cerebellar stimulation in the human motor cortex. Neural Control for Movement, Toyama, Japan

11/2018 Poster Presentation: Cerebellar-motor cortex connectivity: one or two different networks? A TMS study. Society for Neuroscience, San Diego, CA, USA

11/2018 Poster and Oral Presentation: Combining reward and M1 transcranial direct current stimulation enhances the retention of newly learnt sensorimotor mappings. Fresco International Workshop, Florence, Italy

09/2018 Poster and Oral Presentation: Combining reward and M1 transcranial direct current stimulation enhances the retention of newly learnt sensorimotor mappings. BrainBox Initiative, London, UK

05/2018 Poster Presentation: Combining reward and M1 transcranial direct current stimulation enhances the retention of newly learnt sensorimotor mappings. Neural Control for Movement, Santa Fe, NM, USA

10/2016 Poster Presentation: Cerebellar-motor cortex connectivity: one or two different networks. International Conference on Transcranial Brain Stimulation, Göttingen, Germany

10/2015 Poster Presentation: Is the cerebellum involved in interlimb transfer of visuomotor learning? Society for Neuroscience, Chicago, IL, USA

11/2013 Poster Presentation: Physiological changes in the cerebellum and primary motor cortex during learning. Society for Neuroscience, San Diego, CA, USA

11/2011 Poster Presentation: Are changes in cerebellar excitability specific during human motor learning? Society for Neuroscience, Washington, DC, USA

Awards and Recognitions

12/2022 Research Fellowship: "Seal of Excellence" Winner, aimed at outstanding young researchers within the framework of Marie Skłodowska-Curie Individual Fellowships. Funded by the Ministry of University and Research (MUR) and appointed at Sapienza University of Rome

04/2019 Winner of the "Brain Travel Award", receiving £ 1000 travel support to Toyama, Japan for the "29th Annual Neural Control of Movement Conference"

03/2017 Postdoc Research Fellowship: "Improving the effectiveness of therapeutic protocols of repetitive transcranial magnetic stimulation (rTMS)" funded by the Medical Research Council (MR/P006671/1 , PI: Prof. John C Rothwell), Department of Neurology, University College of London

01/2014 Grant Winner for: "Understanding the physiological role of the cerebellum on human motor learning" funded by the National Institute of Health (NIH), 1F31HD078130-01A1, (PI: Danny A Spampinato, Advisor: Prof. Pablo A Celnik), Department of Biomedical Engineering, Johns Hopkins University

Membership in Scientific Societies:

Italian Society of Psycophysiology and Cognitive Neuroscience ID: 61596895

Society of Neuroscience ID: 210191122

Teaching Experience

Sapienza University of Rome / Policlinico Umberto I – Rome, Italy

- Lecturer – Occupational Therapy (BSc in Occupational Therapy), SSD L/SNT2, 2 CFU, Academic Year 2025
- Seminar Lecturer – Occupational Therapy (BSc in Occupational Therapy), SSD L/SNT2, 1 CFU, Academic Year 2025
- Lecturer – Neurophysiology (BSc in Neurophysiopathology Techniques), SSD BIO/09, 2 CFU, Academic Year 2023–2024
- Lecturer – Neurophysiology (BSc in Physiotherapy), SSD BIO/09, 2 CFU, Academic Year 2023–2024

University College London (UCL) – London, UK

- MSc Thesis Supervisor – Department of Neuroscience, Physiology and Pharmacology. Supervision, evaluation, and teaching for three MSc projects (NPP Project – NEUR0001), Sept 2017 – Mar 2020

BrainBox Initiative – Cardiff, UK

- Lecturer & Workshop Instructor – International workshops on non-invasive brain stimulation (TMS, tES)
- “Fundamentals and Applications of TMS Workshop”
- “Fundamentals and Applications of tES Workshop”

Johns Hopkins University – Baltimore, MD, USA

- Teaching Assistant – Course “Design Team Health-Tech Project I” (EN.580.580), Department of Biomedical Engineering. Sept 2015 – Jun 2016

Participation as Peer-Reviewer

Brain Sciences; Brain Structure and Function; Brain Stimulation; Cerebellum; Cerebral Cortex; Cortex; European Journal of Neuroscience; Experimental Brain Research; Frontiers in Neuroscience; Journal of Neuroscience; Journal of Neurophysiology; Journal of Physiology; Movement Disorders; NeuroImage; Neuroscience Letters; Plos One

Reviewer Reports can be viewed on Clarivate:
http://www.webofscience.com/wos/author/record/AAB-4453-2019.