



Michele Di Ponzio

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RESEARCH EXPERIENCE

03/2024 – CURRENT

PhD Researcher - Defitech Chair of Clinical Neuroengineering, NeuroX Institute, EPFL

- Conducting research in the field of Systems Neuroscience and Human Neuromodulation
- Project: non-invasive human stimulation of the striatum to modulate motivation in healthy and clinical populations (Mild Cognitive Impairment, Traumatic Brain Injury)
- Temporal Interference Stimulation, fMRI, Eye Tracking

Lab PI: Professor Friedhelm Hummel

01/2022 – 01/2024

Research Assistant - Institute of Neurosciences, Florence, Italy

- Conduct neuroscientific research
- Perform statistical analysis (**R**, **Matlab**)
- Coordinate research projects (clinical trials)
- Prepare grant application (writing, budget, project timelines)
- Techniques used: **TMS**, **tDCS**, Photobiomodulation, **EEG**, Neuro- and bio-feedback, Behavior Tests
- Develop machine learning algorithms for diagnostic, prognostic and treatment purposes
- Write and publish articles in peer-reviewed journals

Lab PI: Prof. Stefano Pallanti

Link <https://istitutodineuroscienze.it/en/the-institute/team/di-ponzio-michele>

01/2020 – 12/2021

Research Assistant - NeuroVis.U.S. Lab, University of Padova

- Conducted research in the field of developmental cognitive neuroscience
- Investigated the neural correlates of aging and of stochastic resonance mechanism
- Programmed Psychopy experiments
- Performed statistical analysis (**R**, **Matlab**)
- Applied Transcranial Electrical Stimulation (**tDCS**, **tRNS**, **tACS**) and perceptual learning in neurovision
- Wrote and published articles in peer-reviewed journals

Lab PI: Professor Clara Casco,

Lab Co-PI: Professor Luca Battaglini

WORK EXPERIENCE

09/2022 – 01/2024 Florence, Italy

NEUROFEEDBACK CLINICAL COORDINATOR AND NEUROMODULATION PRACTITIONER CENTER OF NEUROLOGY, PSYCHIATRY AND CLINICAL PSYCHOLOGY

- Manage and coordinate clinical activity and teammates
- Treatment and assessment of patients (**Autism**, ADHD, Psychiatric Disorders, Dementia, Parkinson's disease, Chronic Pain)
 - Apply **EEG**, Neurofeedback and **Virtual Reality**
 - Apply **TMS**, DeepTMS, tDCS and photobiomodulation
 - Administer cognitive tests (**CPT**, **Stop Signal Task**, etc.)

04/2022 – 07/2023

SPORT NEUROSCIENTIST LAB PERFORMANCE

- Developed neuroscience-based interventions in sport settings
- Taught sport neuroscience principles to sport coaches
- Wrote sport neuroscience-related articles for dissemination purposes

<https://blog.performancelab16.com/?s=di+ponzio+michele>

01/09/2021 – 31/08/2022 Firenze, Italy

POST-GRADUATE INTERNSHIP CLINICAL NEUROSCIENCE ONLUS

- Administered psychological and neuropsychological tests to psychiatric patients
- Conducted structured and semi-structured interviews
- Neuromodulation and neurostimulation practitioner
- Applied **EEG** and neurofeedback

10/2020 – 03/2021 Padova, Italy

UNIVERSITY INTERNSHIP UNIVERSITÀ DELI STUDI DI PADOVA

- Performed neurobehavioural treatment of patients with neurovisual impairments
- Applied **Transcranial Electrical Stimulation** for treatment of hemianopsia

Supervisor: Prof Luca Battaglini

11/2018 – 05/2019 Bari, Italy

UNIVERSITY INTERNSHIP UNIVERSITÀ DEGLI STUDI DI BARI

- Conducted research adopting **reinforcement learning** principles
- Developed and applied rehabilitation programs for people with neurodevelopmental disorders.
- Investigated the effects of **assistive technology** for functional occupation.

Supervisor: Professor Giulio Lancioni

● EDUCATION AND TRAINING

03/2024 – CURRENT Lausanne, Switzerland

PHD IN NEUROSCIENCE EPFL

11/2022 – 06/2023

MASTER IN NEUROREHABILITATION Fondazione Santa Lucia

144 hours course about neurorehabilitation with a focus on innovative approaches, including **brain-computer interface**

Thesis Application of neuromodulation techniques to cognitive rehabilitation

01/2021 – 06/2022

POSTGRADUATE CERTIFICATE IN BIOMEDICAL SCIENCES Ulster University (UK)

Biochemistry; Microbiology; Molecular Pathology; Cellular Pathology

09/2019 – 09/07/2021

MASTER OF SCIENCE IN COGNITIVE NEUROSCIENCE AND CLINICAL NEUROPSYCHOLOGY Università degli studi di Padova

Supervisors: Prof Clara Casco, Prof Luca Battaglini

- Two-years course entirely held in English
- Topics Covered: Cognitive Neuroscience, Developmental and Aging Brain, **Psychophysics**, Neuroanatomy, Neurobiology, **Neuroimaging**, **Machine Learning**, **Computational Neuroscience**, Clinical Neuroscience
- Relevant Hands-on sessions:
 - Application of Transcranial Electrical Stimulation
 - **MATLAB and Computational Cognition**
 - Statistical Parametric Mapping fundamentals

- Human Brain Dissection
- Relevant projects:
 - **A Support Vector Machine study to differentiate between behavioural variant of Frontotemporal Dementia and Primary Psychiatric Disorders**
 - Development of a Toolbox with Psychopy for the assessment of brain asymmetries

Final grade 110 cum laude (out of 110) |

Thesis Stochastic resonance in a coherent motion task and the effects of external/internal noise in the elderly

05/2021

TRAINING COURSE: JSPSYCH Università di Padova

20 hours Advanced Course for Scientific Research about jsPsych

09/2016 – 07/2019

BACHELOR OF SCIENCE IN PSYCHOLOGICAL SCIENCES Università degli studi di Bari

Supervisor: Professor Giulio Lancioni

Topics Covered: Neurobiology, General Psychology, Neuroscience, Statistics, Clinical Psychology

Final grade 104 out of 110 |

Thesis Assistive technology in support of functional occupation in cases of multiple and severe disabilities: a case study

02/2019

TRAINING COURSE: INTRODUCTION TO MATLAB Università degli studi di Modena e Reggio Emilia

8 hours introductory course

02/2019

TRAINING COURSE: PYTHON Università di Genova

35 Hours Course

● **TEACHING EXPERIENCE**

09/2024 – CURRENT

Teaching Assistant - EPFL

Teaching Assistant for the *Advanced Methods in Human Neuromodulation* course in the NeuroX Master's Degree program at EPFL

12/2022

Lecturer - Workshop: TMS for addiction - SERT Pozzuoli

- Developed teaching program
- Taught principles of neuromodulation for the treatment of addiction to clinicians
- Showed practical principles of TMS

10/2022

Lecturer - Course: Neuromodulation Techniques - Istituti Zucchi, Milano

- Delivered two lectures to a class of clinicians:
 - Neurofeedback and attention
 - Photobiomodulation and Concussions

03/2022

Lecturer - Course: Sport Psychology - T.P. Academy, Florence

- Developed teaching program
- Taught principles of sport psychology to tennis coaches

● LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C1	C1	C1	C1
FRENCH	A2	A2	A1	A1	A1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● DIGITAL SKILLS

Microsoft Office | Jatos | PsychoPy | R | MATLAB | Python | jsPsych

● NETWORKS AND MEMBERSHIPS

Member of the European Society for Cognitive and Affective Neuroscience (ESCAN)

Member of the International College of Obsessive-Compulsive Spectrum Disorders (ICOCS)

Member of the European College of Neuropsychopharmacology (ECNP)

● CONFERENCES AND SEMINARS

10/2022

ICOCS Annual Meeting 2022

Poster Presentation

08/2021

ECVP Annual Conference 2021

Poster Presentation

● AWARDS

19/10/2022

Herman Westenberg Prize

Won the Herman Westenberg Prize for the poster presentation at the 18th Annual ECNP-OCRN-ICOCS Scientific Meeting in Wien

● REVIEWER/EDITORIAL ROLES

05/2023 – CURRENT

Topic Coordinator - Frontiers in Psychiatry

Topic Coordinator for the special issue: "Neural Circuitry Related to Neuropsychiatric Manifestations in COVID-19" for Frontiers in Psychiatry

Link <https://www.frontiersin.org/research-topics/56333/neural-circuitry-related-to-neuropsychiatric-manifestations-in-covid-19#overview>

Reviewer for the Journal of Clinical Psychiatry

Reviewer for the International Journal of Mental Health and Addiction

Reviewer for the IScience Journal

● TEAM AND COMMUNICATION SKILLS

Team management

Team Communication

Leadership

Teamwork

Public Speaking

Scientific dissemination

● PUBLICATIONS

[Di Ponzio, M., Battaglini, L., Bertamini, M., & Contemori, G. \(2024\). Behavioural stochastic resonance across the lifespan. Cognitive, Affective, & Behavioral Neuroscience, 1-17.](#)

[Pallanti, S., Di Ponzio, M., Levola, J., Lioumis, P., Paunio, T., Kičić, D., ... & Makris, N. \(2024\). Treatment of Behavioral Addictions and Substance Use Disorders: a Focus on the Effects of Theta-Burst Stimulation Over the Pre-SMA. International Journal of Mental Health and Addiction, 1-14.](#)

[Pallanti, S., Di Ponzio, M., Gavazzi, G., Gasic, G., Besteher, B., Heller, C., Kikinis, R., Makris, N., & Kikinis, Z. \(2023\). From 'mental fog' to post-acute COVID-19 syndrome's executive function alteration: Implications for clinical approach. Journal of psychiatric research, 167, 10-15.](#)

[Di Ponzio, M., & Pallanti, S. \(2023\). Deep Transcranial Magnetic Stimulation in combination with symptoms provocation: An effective treatment in patients with treatment-resistant Body Dysmorphic Disorder?. Neuroscience Applied, 101137.](#)

[Pallanti, S., Camprodon, J. A., Di Ponzio, M., & Makris, N. \(2023\). Efficacy of Continuous Theta Burst Stimulation to the Pre-supplementary Motor Area in Gambling Disorder: a Randomized Double-Blind Controlled Trial. International Journal of Mental Health and Addiction, 1-10.](#)

[Pallanti, S., & Di Ponzio, M. \(2023\). PANDAS/PANS in the COVID-19 Age: Autoimmunity and Epstein-Barr Virus Reactivation as Trigger Agents?. Children, 10\(4\), 648.](#)

[Battaglini, L., Casco, C., Fertoni, A., Miniussi, C., Di Ponzio, M., & Vicovaro, M. \(2023\). Noise in the brain: Transcranial random noise stimulation and perceptual noise act on a stochastic resonance-like mechanism. The European journal of neuroscience, 57\(12\), 2097-2111.](#)

[Di Ponzio, M., Makris, N., Tenerini, C., Grassi, E., Ragone, S., & Pallanti, S. \(2023\). rTMS investigation of resistant Obsessive-Compulsive Related Disorders: Efficacy of targeting the reward system. Frontiers in Psychiatry, 13, 1035469.](#)

[Pallanti, S., Di Ponzio, M., Makris, N., & Kubicki, M. \(2022\). Theta-Burst Stimulation over the pre-Supplementary Motor Area in Schizophrenia and comorbid substance use disorder: Preliminary clinical data. Annals of Psychiatry and Treatment, 6\(1\), 028-032.](#)

[Battaglini, L., Di Ponzio, M., Ghiani, A., Mena, F., Santacesaria, P., & Casco, C. \(2022\). Vision recovery with perceptual learning and non-invasive brain stimulation: Experimental set-ups and recent results, a review of the literature. Restorative Neurology and Neuroscience, 40\(3\), 137-168.](#)

[Pallanti, S., Di Ponzio, M., Grassi, E., Vannini, G., & Cauli, G. \(2022\). Transcranial Photobiomodulation for the Treatment of Children with Autism Spectrum Disorder \(ASD\): A Retrospective Study. Children, 9\(5\), 755.](#)

Di Ponzio, M., Contemori, G., Casco, C., & Battaglini, L. (2021, December). Stochastic resonance in a coherent motion task and the effects of external/internal noise in the elderly. In PERCEPTION (Vol. 50, No. 1_ SUPPL, pp. 133-134).
