



Abhineet Ojha

Date of birth: | Nationality: | Phone number: (|
Email address: | Skype: |
Address:

EDUCATION AND TRAINING

01/11/2021 – 21/01/2025 Rome, Italy
PHD Sapienza University of Rome

Website <https://www.uniroma1.it/en/pagina-strutturale/home> | Level in EQF EQF level 8

05/2012 – 12/2017 Jaipur, India
INTEGRATED B.TECH.-M.TECH. IN COGNITIVE NEUROSCIENCE Centre for Converging Technologies

Level in EQF EQF level 7

WORK EXPERIENCE

15/12/2024 – 15/04/2025 Rome, Italy
RESEARCH FELLOW PROF PATRIZIA PANTANO, DEPARTMENT OF HUMAN NEUROSCIENCES, SAPIENZA UNIVERSITY OF ROME, ROME, ITALY

I prepared and pre-processed the subjects of neurodegenerative disease patients including Parkinson dataset preacquires in our lab and Italian Neuroimaging Network Initiative (INNI) database. In addition to this, I am helping analyse and provide results for these preprocessed subjects.

Title: Follow-up study on resting state functional connectivity using Independent Component Analysis (ICA) in Multiple Sclerosis(MS) patients.

My role: I have harmonised the resting state functional dataset.

Title: Resting state functional connectivity using Independent Component Analysis (ICA) in de novo Parkinson's disease (PD) patients.

My role: Perform group level analysis and correlation analysis.

Title: Seed based resting state functional connectivity using 9HPT scale in Multiple Sclerosis(MS) patients.

My role: perform preprocessing and group level analysis of resting state functional connectivity data.

01/11/2021 – 31/10/2024 Rome, Italy
PHD STUDENT DEPARTMENT OF HUMAN NEUROSCIENCE

During my PhD tenure I was part of multiple project whose title are given below :

Title: Investigating the Role of Brain and Spinal Cord Structural Damage in the Radiological Paradox of Multiple Sclerosis Patients Using the INNI Database. (published)

My role: I prepared and pre-processed the subjects from the INNI database. I examined the relationship between structural brain damage and disability through multimodal MRI analyses. I conducted a cross-sectional analysis using data from the Italian Neuroimaging Network Initiative, focusing on patient MRI evaluations and neuropsychological assessments to identify novel biomarkers. I have also assisted in writing the paper.

Title: Network localization of fatigue in multiple sclerosis. (publication in review)

My role: I prepared and pre-processed the subjects from the INNI database.

Title: Structural and functional connectivity alterations in de novo Parkinson's disease patients. (published)

My role: This was one of the studies included in my PhD thesis. My role was to preprocess and analyze structural and functional MRI data. Here, I have performed volumetric, resting-state functional, and WM integrity analyses using various tools. I have also assisted in writing the paper.

Title: Association of early fMRI connectivity alterations with different cognitive phenotypes in patients with newly diagnosed Parkinson's disease. (published)

My role: This was one of the studies included in my PhD thesis. I processed fMRI data using fMRIPrep, applied signal regression and filtering, generated resting-state connectivity maps, and identified significant connectivity differences in early PD patients. I then extracted mean BOLD signals from these areas to correlate with clinical scores related to symptoms. I have also assisted in writing the paper.

Title: Comparative study of TMS-evoked potentials (TEPs) from M1 and pre-SMA between a DeNovo PD group and a group of early PD patients chronically treated with L-dopa. (published)

My role: I created the tract between the pairs of ROI for both the PD patient and the healthy control group. Then, I extracted the FA, MD, RD, and AD values using these tracts as masks. Then, I compiled these FA, MD, RD, and AD values. I ran the two-sample t-test.

02/02/2019 – 01/04/2020 Bangalore, India

SENIOR RESEARCH FELLOW DEPARTMENT OF PSYCHIATRY, NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES (NIMHANS)

Project title: An exploratory study of the Role of Inflammation on Aberrant Neurodevelopment in Schizophrenia
Project details: Department of Science and Technology (International Bilateral Co-operation Division) GOI funded Indo-Tunisia project. In this project, we are trying to correlate the aberrant neurodegeneration in the brain during schizophrenia with neuroinflammation.

My role:

- Recruitment of subjects for study. Acquisition and analysis of MRI data.
- Designing fMRI tasks using E-Prime software.
- Prepare pipeline for the sanity check of DICOM and NIfTI data to ensure the proper format of data.
- For analysis and designing purposes, I have used different programming languages, including MATLAB and Python.

02/01/2018 – 01/01/2019 Bangalore, India

SENIOR RESEARCH FELLOW DEPARTMENT OF CHILD AND ADOLESCENT PSYCHIATRY, NIMHANS

Project title: Imaging and Biological correlates in children with Autism Spectrum Disorder with and without epilepsy
Project details: Funded by the Indian Council of Medical Research (ICMR), GOI. In this, we have observed structural, functional parameters of the brain of children having autism spectrum disorder with and without epilepsy.

My role:

- Recruitment of subjects for study.
- Prepare project report and all other relevant document related to the project.
- Analysis of already acquired MRI data of different modalities which have been analysed by different software including FSL and MRICloud.
- We are currently analyzing the results and start to write a paper on it.

15/04/2017 – 15/11/2017 Bangalore, India

RESEARCH INTERN DR. JAMUNA RAJESWARAN, PROFESSOR OF CLINICAL PSYCHOLOGY NIMHANS

Project title: "Do Anti-Smoking advertisements affect an individual's brain response: An EEG study on the Indian population"

Project and My role: This study was conducted to analyze the behavioural and electrophysiological correlates of the effects of Indian anti-smoking TV advertisements on smokers and non-smokers while watching the advertisements.

- This was my final year Master thesis project for my integrated B.Tech.-M.Tech.
- My role was to preprocess EEG data and perform the power spectrum analysis of data and apply the statistics (hypothesis testing) on the outcome results.
- Result of this published in journal (reference in the publication section).

01/10/2016 – 31/01/2017 Bangalore, India

RESEARCH INTERN DEPARTMENT OF CLINICAL PSYCHOLOGY, NIMHANS

Project title: "Academic stress in school children: A comparative resting-state EEG study on Indian Population "

Project and My role: This study was conducted to compare the behavioural and electrophysiological outcome of the stress levels between high and low rankers in high school students.

- My role was to acquire and analyse the EEG data and perform a power spectrum analysis and applied statistics (hypothesis testing) in order to get the final result.
- Result of this was published in the journal.

● LANGUAGE SKILLS

Mother tongue(s): **HINDI**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C1	C1	C1

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

● TECHNICAL SKILLS

Microsoft Excel | Microsoft Office | Microsoft Powerpoint | MATLAB | R | interact verbally in English | write English | understand spoken English

● PUBLICATIONS

Publication

- **Ojha, A** ; Tommasin, S; Piervincenzi, C; Baione, V; Gangemi, E; Gallo, A; d'Ambrosio, A; Altieri, M ; De Stefano, N; Cortese, R; Valsasina, P; Tedone, N; Pozzilli, C; Rocca, M A; Filippi, M; Pantano, P, "Unveiling the Puzzle: clinical and MRI features contributing to the clinico-radiological paradox in Multiple Sclerosis", Multiple Sclerosis Journal (published).
- O. Likitalo, J. Kungshamn, A. Bellmund-Gil, S. Tommasin, **A. Ojha**, M. Viitala, J. Aaltonen, J. Lötjönen, J. Koikkalainen, P. Ylikotila, P. Pantano, M. Soilu-Hänninen, J. Joutsa, Network localization of fatigue in multiple sclerosis, *Journal of Neurology (under review)*
- De Bartolo, **A. Ojha**, G. Leodori, C. Piervincenzi, G. Vivacqua, S. Pietracupa, M. Costanzo, F. D'Antonio, S. Barbetti, R Margiotta, G. Bruno, A. Conte, A. Berardelli, G. Fabbrini, P. Pantano, D. Belvisi, Association of early fMRI connectivity alterations with different cognitive phenotypes in patients with newly diagnosed Parkinson's disease. *Neurology*.(published)
- **Poster on** "Unveiling the Puzzle: Explaining Clinical Variability in Multiple Sclerosis through MRI measures" at Multiple Sclerosis Journal, Volume 30, Issue 3_suppl: 40th Congress of the European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS), 18-20 September 2024, Copenhagen, Denmark.
- Pietracupa, S., **Ojha, A.**, Belvisi, D., Piervincenzi, C., Tommasin, S., Petsas, N., ... & Pantano, P. (2024). Understanding the role of cerebellum in early Parkinson's disease: a structural and functional MRI study. *npj Parkinson's Disease*, 10(1), 119.
- Leodori, G., De Bartolo, M. I., Piervincenzi, C., Mancuso, M., **Ojha, A.**, Costanzo, M., ... & Belvisi, D. (2024). Mapping Motor Cortical Network Excitability and Connectivity Changes in De Novo Parkinson's Disease. *Movement Disorders*.
- Gupta R. K., Rajeswaran J., Bhattacharya A., **Ojha A.**, & Bennett C. N. (In press). Academic stress in school children: Behavioral and electrophysiological outcomes study. *Indian Journal of Clinical Psychology*.
- Gupta R. K., Rajeswaran J., **Ojha A.**, Rathore P., Afsar M., & Bhattacharya A. (In press). Effect of anti-smoking advertising on the Indian population: A comparative behavioral and electrophysiological outcome study. *Indian Journal of Clinical Psychology*.
- **Presented poster** on "Academic Stress In School Children: A Comparative Resting-State EEG Study On Indian Population" 4th International Conference on Stress Management (ICSM) 2017 by International Stress Management Association.

● CONFERENCES AND SEMINARS

Conferences

- Multimodal Approach for Biomedical Applications on 21st April 2023, Sala Laurea, Department of Physics, Sapienza University of Rome.
- 19th Kuopio bio-MRI workshop from June 31st – July 2th 2022.

- OHBM BrainHack 2022 from June 16-18th 2022.
- International Conference on Creativity & Cognition in Art & Design at NIMHANS, Bangalore, India, January 2017.
- International Conference on Trends and Clinical Psychology at NIMHANS, Bangalore, India, November 2016.
- 3rd International conference on "Cognition, Brain, and Computation" at IIT, Gandhinagar, India December 2015.

RECOMMENDATIONS

1. Dr K John Vijay Sagar

Professor, and HOD, Dept. of Child and Adolescent Psychiatry,
National Institute of Mental Health and Neurosciences, Bengaluru, India.

Email: sagarjohn@gmail.com

2. Dr John P John

Professor, Dept. of Psychiatry,
National Institute of Mental Health and Neurosciences, Bengaluru, India.

Email: jpjinc@yahoo.com

3. Prof. Patrizia Pantano

Professor, Dept. of Human Neuroscience,
Sapienza University of Rome, Rome, Italy.

Email: patrizia.pantano@uniroma1.it

JOB-RELATED SKILLS

Job-related skills

- FMRI and structural MRI data are analysed using image processing software such as Statistical Parametric Mapping (SPM), FMRIB Software Library(FSL) and CONN.
- Programming language: Python (intermediate), MATLAB(fluent), R(intermediate).

WORKSHOPS

Workshops

- E workshop Data-Analysis with 'R' Programming from 30th September to 1st October 2023, online workshop.
- D07 Statistical Parametric Mapping for fMRI and MRI/VBM, UCL Online Store from October 17 - 19th 2022.
- 9th International Summer School in Biomedical Engineering (2020) held from 5th-11th August 2020 in Augustinerkloster in Erfurt, Germany (Online attendance due to COVID).
- DTI Bootcamp workshop titled India Brain Connectivity Bootcamp (DTI 2020) at NIMHANS, Bengaluru, Karnataka. – February 2020.
- Workshop on brain connectivity analysis and conference on brain-computer interfaces-2018 in Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram, Kerala. – December 2018.
- Summer School on Statistical and Machine Learning Approaches in Neuroimaging and Cognitive Neuroscience at IIIT Hyderabad May 2017.
- Preconference workshop on "Eye Tracking" at IIT, Gandhinagar, December 2015.

COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

- Able to communicate effectively with a wide range of people, by showing interest and carefully listening to their needs.
- Strong presentation and demonstrating skills; Confident, articulate and professional speaking abilities.

Abhineet Ojha