



● WORK EXPERIENCE

04/2022 – CURRENT

POST DOCTORAL RESEARCHER DEPARTMENT OF PHYSIOLOGY AND PHARMACOLOGY, SAPIENZA UNIVERSITY

Behavioral Neurophysiology

- Data preparation: Sorting of the raw neuronal data recorded from monkeys to create a database of clean neurophysiological Single neurons in order to proceed with further analysis using an automatic sorting algorithm.
- Data Analysis: Analysis of physiological signal (neural and oculometry) recorded from monkeys and humans during various cognitive tasks to study motor control and decision making.
- Task Development: Behavioral paradigms for neurophysiological experiments with non-human primates and humans.

01/11/2018 – 31/01/2022 Rome, Italy

DOCTORAL CANDIDATE SAPIENZA UNIVERSITY

Behavioral Neuroscience Ph.D. Program

Neurophysiology

- Understanding the neuronal basis of behavior using neurophysiological techniques, involving the analysis of single-unit activity obtained from the non-human primate brain.
- Studying the role and involvement of different brain areas in complex and highly demanding cognitive tasks.
- Analysis and recording of other physiological signals in relation to the behavior.
- Development of behavioral tasks.

01/10/2016 – 10/09/2018 New Delhi, India

RESEARCH FELLOW DEPARTMENT OF NMR AND MRI FACILITY, ALL INDIA INSTITUTE OF MEDICAL SCIENCES (AIIMS)

Neuroimaging studies:

- fMRI and MRI data analysis and acquisition for cognitive studies of different neurological disorders and controls.
- Contributed to the completion of a project titled "Functional, Morphological, Biochemical and Behavioural evaluation post EMF radiation i.e the mobile radiation"
- Development of fMRI task paradigms.

01/05/2015 – 10/02/2016 Bangalore, India

RESEARCH TRAINEE DEPARTMENT OF NEUROIMAGING AND INTERVENTIONAL RADIOLOGY, NIMANS

- Brain Functional Connectivity analysis using fMRI for resting state and cognitive task performance state.
- Worked with various cognitive aspects such as memory, motor control, language, decision making, and emotion for studying the connectivity changes with respect to the relation of DMN and task-positive networks.

● EDUCATION AND TRAINING

27/09/2013 – 15/03/2016 Jaipur, India

MASTER OF TECHNOLOGY IN COGNITIVE NEUROSCIENCE Center for Converging Technologies, University of Rajasthan

● **LANGUAGE SKILLS**

Mother tongue(s): **HINDI** | **ENGLISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ITALIAN	A1	A1	A1	A1	A1

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

● **PUBLICATIONS**

2022
[Different Contribution of the Monkey Prefrontal and Premotor Dorsal Cortex in Decision Making during a Transitive Inference task](#)

<https://doi.org/10.1016/j.neuroscience.2022.01.013>

2022
[Motor inhibition parameters are reflected in the kinetic and kinematic of gait initiation in a step version of the Stop Signal Task](#)

<https://doi.org/10.1016/j.gaitpost.2022.09.021>

2023
[Restart errors reaction time of a two-step inhibition process account for the violation of the race model's independence in multi-effector selective stop signal task](#)

<http://dx.doi.org/10.3389/fpsyg.2023.1125066>

2023
[Reward prospect affects strategic adjustments in stop signal task](#)

<http://dx.doi.org/10.3389/fpsyg.2023.1125066>

2023
[The transitive inference task to study the neuronal correlates of memory-driven decision making: a monkey neurophysiology perspective](#)

<https://doi.org/10.1016/j.neubiorev.2023.105258>

2023
[Static and dynamic coding in distinct cell types during associative learning in the prefrontal cortex](#)

<https://doi.org/10.1038/s41467-023-43712-2>

2024
[Neural Activity in Quarks Language: Lattice Field Theory for a Network of Real Neurons](#)

<https://doi.org/10.3390/e26060495>

2024
[Cognitive mechanisms of learning in sequential decision-making under uncertainty: an experimental and theoretical approach](#)

<https://doi.org/10.3389/fnbeh.2024.1399394>

2024
[Force monitoring reveals single trial dynamics of motor control in a stop signal task](#)

<https://doi.org/10.14814/phy2.70127>

2024

Balancing postural control and motor inhibition during gait initiation

<https://doi.org/10.1101/2024.05.16.594550>

● **HONOURS AND AWARDS**

09/09/2021

SIF Prize Best Poster 2021 – Italian Society of Physiology

1st Place in Neurobiology and Neurophysiology

● **JOB-RELATED SKILLS**

Scientific skills

- Proficient in use of MATLAB for the analysis of single unit neuronal data and writing scripts for the analysis of neurophysiological datasets.
- Behavioural task designing for non-human primate and human experiments using different platforms like MATLAB and JAVA.
- Familiarised with MATLAB based tools for Neuroimaging data and image processing and bridging the results for group analysis using cross programming.
- Acquainted with the use of various tools like SPM, CONN (connectivity toolbox), FSL (fmrib software library-linux based tool for neuroimaging data analysis).

● **CONFERENCE PUBLICATIONS**

11/2021

Neuronal encoding of ranked items in primate prefrontal cortex during different phases of a transitive inference task

Surabhi Ramawat, Valentina Mione, Fabio Di Bello, Pierpaolo Pani, Stefano Ferraina, Emiliano Brunamonti, Neuroscience 2021, SFN 50th Annual Meeting 2021

09/2021

Differences in task difficulty encoding during logical decision-making in prefrontal and premotor cortical activity from non-human primates

Surabhi Ramawat, I. B. Marc, M. Andujar, F. Ceccarelli, F. Londei, P. Pani, A. Genovesio, S. Ferraina, E. Brunamonti, 71st Congress of The Italian Society of Physiology (SIF 2021).

09/2019

Neuronal Correlates of Decision Making in the Prefrontal and Premotor Cortex of Non-human primates during a Transitive Inference Task

Surabhi Ramawat, Fabio Di Bello, Valentina Mione, Stefano Ferraina, Emiliano Brunamonti, XVIII Congresso Nazionale SINS, Perugia

06/2018

A comparison of audiovisual and auditory cue-based gaming using fMRI

Surabhi Ramawat, Senthil Kumaran, Shefali Chaudhary, Sunita Gudwani, Sadhana Kumari, Rohit Saxena, and Naranamangalam R Jagannathan, ISMRM-ESMRMB, Paris

Link <https://cds.ismrm.org/protected/18MProceedings/PDFfiles/4541.html>

05/2016

Why a clinical sign does not always correlate with lesion location

Rajanikant Panda, Rose Dawn Bharath, Shriram Varadhran, Sankalp Tikoo, Sarbesh Tiwari, Surabhi Ramawat, Shiva Karthik, Indira Devi Bhagavatula and Arun Gupta, ISMRM, Singapore

Link <https://cds.ismrm.org/protected/16MProceedings/PDFfiles/3791.html>

06/2021

Neuronal Correlates of Choice Difficulty during a Logical Decision-making task in Primate Prefrontal and Premotor Cortex

Surabhi Ramawat, Fabio Di Bello, Valentina Mione, Giampiero Bardella, Pierpaolo Pani¹, Stefano Ferraina and Emiliano Brunamonti, ENCODS, FENS PhD meeting, 2021

09/2021

Failure of the race model accounting for inhibition in a stop signal selective task of upper and lower limb

Isabel Beatrice Marc, Valerio Romano, Surabhi Ramawat, Marta Andujar, Lorenzo Fiori, Fabrizio Londei, Francesco Ceccarelli, Stefano Ferraina, Emiliano Brunamonti, 71st Congress of The Italian Society of Physiology (SIF 2021).

2021

Stable and Dynamic Response Population Coding in Prefrontal cortex

Francesco Ceccarelli, Fabrizio Londei, Surabhi Ramawat, Isabel Beatrice Marc, Aldo Genovesio, 71st Congress of The Italian Society of Physiology (SIF 2021).

25/06/2024 – 29/06/2024

Neuronal correlates of rank-order based decision making within different cell classes of primate prefrontal cortex

Surabhi Ramawat, Fabio Di Bello, Giampiero Bardella, Stefano Ferraina, Emiliano Brunamonti
Department of Physiology and Pharmacology, Sapienza University, Rome, Italy; Poster: FENS Forum 2024

WORKSHOPS

10/03/2021

Multisite recordings and distributed representations in the macaque brain

Department of NMR, All India Institute of Medical Sciences, New Delhi under the egis of "ISMRM Indian Chapter".

03/2017

Recent advances in MRI and MRS

Department of Biomedical Engineering, Indian Institute of Technology, New Delhi, India

02/05/2022 – 05/05/2022

IN2PrimateBrains' Thematic Workshop 1

Human Brain Project- EBRAINS Workshop, Rome Italy

05/2017

"MedImg", Medical Imaging Workshop

At the Sapienza University, in Rome, Italy

13/06/2022 – 15/06/2022

Brain Activity across Scales and Species: Analysis of Experiments and Simulations (BASSES)

29/07/2024 – 02/08/2024

Analyzing Neural Time Series Data

Date: 06/12/2024

Sign: 