



FULVIA PALESI

ASSOCIATE PROFESSOR
@UNIVERSITY OF PAVIA

EDUCATION AND TRAINING

Summer School in Artificial Intelligence

2023 Utrecht University (Netherlands)

Siemens IDEA patent

2015 Siemens Healthcare training centre (Germany)

PhD in Applied Physics

2008-2011 Dept of Physics, University of Pavia (Italy)
IRCCS Mondino Foundation, Pavia (Italy)

M.Sc. in Biomedical Physics (Summa cum Laude)

2006-2008 Dept of Physics, University of Pavia (Italy)

B.Sc. in Physics (110/110)

2006-2008 Dept of Physics, University of Pavia (Italy)

WORK EXPERIENCE

Associate Professor (BIO/09)

Apr 2024 - present / University of Pavia (Italy)
Dept. Brain and Behavioral Sciences

Assistant Professor (RTD-A, BIO/09)

Apr 2019 - Mar 2024 / University of Pavia (Italy)
Dept. Brain and Behavioral Sciences

Visiting fellowship @ Aix-Marseille Université

June 2019 / Aix-Marseille Université, Marseille (France)
Institut de Neurosciences des Systèmes, Prof. V. Jirsa

MRI Researcher

Dec 2017 – Apr 2019 / IRCCS Mondino Foundation
Neuroradiology Unit

Visiting fellowship @ UCL

Feb 2012 – Aug 2012 / UCL, London (UK)
Institute of Neurology, Prof. C. Gandini Wheeler-Kingshott

Postdoc research fellow (AdR, FIS/07)

Nov 2011 – Nov 2017 / University of Pavia (Italy)
Dept. Physics @UNIPV, Brain Connectivity Center @IRCCS Mondino

NATIONAL SCIENTIFIC QUALIFICATION


Associate Professor - Physiology

ASN – Professore II fascia. Settore concorsuale: 05/D1 FISILOGIA
Validity from 23/07/2021 to 23/07/2031


Associate Professor - Applied Physics

ASN – Professore II fascia. Settore concorsuale: 02/D1 FISICA
APPLICATA, DIDATTICA E STORIA DELLA FISICA
Validity from 04/06/2021 to 04/06/2031

PERSONAL INFO

 Pavia (PV), Italy

CONTACTS

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 fulvia.palesi@unipv.it

 [fulvia-palesi-77b414134/](https://www.linkedin.com/in/fulvia-palesi-77b414134/)

SCIENTIFIC PROFILE

My research field is integrative neurophysiology in humans addressing the relationship between brain structure, function, and dynamics, with special interest for the cerebellum. I have developed advanced protocols for the acquisition and analysis of functional and quantitative magnetic resonance imaging to investigate the physiological process and brain diseases. In the last years my experimental activity has extended to include machine learning and modelling techniques, in particular Virtual Brain Modelling and Dynamic Causal Modelling. These models have allowed me to simulate brain activity at the macroscale and unveil the mechanisms at the basis of physiological and pathological brain states.

I am part of extensive collaborations with European Neurophysiological and Neurological research organizations like the University College of London, University of Berlin, Aix-Marseille Université, Vall d'Hebron Hospital in Barcelona, EBRAINS and Human Brain Project.

LANGUAGES

Italian - Native

English - Advanced

Spanish - Basic

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RESPONSIBILITY IN SCIENTIFIC PROJECTS

Most of my research projects are carried out in close collaboration with national and international research centers.

- [Human Brain Project \(European Commission\)](#) – SGA3 (No. 945539, 2020-2023) – co-PI: “Advanced Modeling Of Magnetic Resonance Imaging Data To Study The Biophysical Underpinning Of NEurological Symptoms Of Long-COVID (MODEL)” – Responsible for modelling and simulation of brain dynamics
- [Human Brain Project \(European Commission\)](#) – SGA2 (No. 785907, 2018-2020) and SGA3 (No. 945539, 2020-2023) – Responsible for data integration and physiological analysis in brain models in the following sub-projects:
 - BOLDsim: BOLD signal reconstruction and simulation from cellular data-driven models
 - SODIUMsim: SODIUM signal reconstruction/simulation from cellular data-driven models
 - ATLAS-cer: Enhanced mouse atlas for cerebellar connectivity
 - T1.5 - Multiscale models of human cortex, hippocampus, cerebellum and basal ganglia
 - T1.6 - Simulation of whole-brain network dynamics and its rhythmic activity, constrained by region-wide differences
 - T1.15 - Whole-brain rodent Spiking neural Networks (RisingNet)
- Ministry of Health “[Ricerca Finalizzata](#)” Network Program (NET2013-02355313, 2017-2020) – Responsible for MRI protocols and subsequent neurophysiological, neuropsychological and clinical data correlations in temporal lobe epilepsy
- [Rete IRCCS delle Neuroscienze e della Neuroriabilitazione \(RIN, 2017-2020\)](#) – Responsible for Neuroimaging protocols development, testing, and validation for standardized analysis

SCIENTIFIC PRODUCTION

SCOPUS ID: [37038201700](#)

ORCID ID: [0000-0001-5027-8770](#)

ResearcherID: [J-5902-2016](#)

Loop Profile: [172844](#)

TOT CITATIONS=890; H-INDEX = 15 [SCOPUS ON MARCH 2024]

TOT CITATIONS=1284; H-INDEX = 16 [SCHOLAR ON MARCH 2024]

- 40 articles on international peer-reviewed indexed Journals
- 2 book contributions
- more than 30 publications on indexed International Conference Proceedings
- more than 90 contributions at International Conferences

EDITORIAL ROLES AND PEER-REVIEW CONTRIBUTION

- Guest Editor for the Research Topic “[Multi-scale modeling of brain dynamics](#)” (Frontiers Cellular Neuroscience) (Loop: [172844](#))
- Associate Editor for Brain Imaging Methods (Frontiers Neuroscience and Frontiers Neuroimaging) (Loop: [172844](#))
- Review Editor for Psychology for Clinical Settings (Frontiers Psychology) (Loop: [172844](#))
- More than 20 verified reviews for several indexed journals (ResearcherID: [J-5902-2016](#))
- Abstract Reviewer for the national conference “Italian Chapter of the International Society for Magnetic Resonance in Medicine” 2017
- Abstract Reviewer for the “Workshop on Computational Diffusion MRI (CDMRI'17)” satellite of the international 2017 MICCAI conference

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ACADEMIC RESPONSIBILITY

Supervisor of more than 40 Master theses @UniPV and of the following PhD projects.

- [Andrea De Rinaldis](#), PhD in Bioengineering XXIX Cycle – “Diffusion tensor imaging: study of white matter connections and advanced MRI sequence development” @ University of Pavia in collaboration with Max Planck (Germany)
- [Nicolò Rolandi](#), PhD in Biomedical Sciences XXXIV Cycle – “Investigating brain structure and function with advanced MRI in health and disease” @ University of Pavia in collaboration with Niguarda Hospital and IRCCS C. Besta (Italy)
- [Roberta Lorenzi](#), PhD in Biomedical Sciences XXXV Cycle – “Development of a cerebellar mean-field model: theoretical framework, implementation and first application” @ University of Pavia in collaboration with Université Paris-Saclay (France)
- [Elena Grosso](#), PhD in Biomedical Sciences XXXVII Cycle – “Iron homeostasis, magnetic susceptibility imaging, and COVID-19: searching for mechanisms that can be targeted to solve persistent symptoms” @ University of Pavia, @ Technology dedicated to care srl (Naples, Italy) in collaboration with Vall d'Hebron University (Spain)
- [Gokce Korkmaz](#), PhD in Biomedical Sciences XXXVIII Cycle – “Assessment the effective connectivity of complex functional response with dynamic causal modelling” @ University of Pavia in collaboration with University College London (UK)
- [Eleonora Lupi](#), National PhD in Artificial Intelligence XXXVIII Cycle (Rome) – “Toward Brain Digital Twins: Integration of biophysical features in virtual brain models of healthy and pathological brain” @ University of Pavia in collaboration with Cardiff University (UK)
- External supervisor for Golestan Karami, BioMEP European PhD (Marie Skłodowska-Curie #713645) @ University of Chieti, IRCCS C.Besta, UCL (UK)

TEACHING EXPERIENCE

- 2023/present **Brain-inspired Neural Networks and Neural Architecture (English)**
B. Sc. Degree in Artificial Intelligence @ Inter-university Milan & Pavia (Italy)
- 2023/present **Computational Neuroscience - with Prof. E. D'Angelo (English)**
M. Sc. Degree in Neurobiology @ University of Pavia (Italy)
- 2019/present **Fisiologia Cellulare**
M. Sc. Degree in Pharmacy @ University of Pavia (Italy)
- 2019/23 **Advanced Systemic Neurophysiology - with Prof. E. D'Angelo**
M. Sc. Degree in Neurobiology @ University of Pavia (Italy)
- 2016/21 **MRI Physics for neuroscience (main teacher: Prof. CAM. Gandini)**
M. Sc. Degree in Psychology, neuroscience and human sciences @ University of Pavia and University School for Advanced Studies IUSS, Pavia (Italy)
- 2016/19 **MRI quantitativa: segnale, immagini, modelli (Prof. CAM. Gandini)**
M. Sc. Degree in Biomedical Engineering @ University of Pavia (Italy)
- 2016/17 **Strumentazione fisica biosanitaria (Prof. M. Corti)**
M. Sc. Degree in Physics @ University of Pavia (Italy)
- Seminars for Applied Magnetic Resonance (Prof. P. Carretta)**
PhD course in Applied Physics @ University of Pavia (Italy)
- 2015/16 **Fisica - with Prof. P. Galinetta**
B. Sc. Degree in Geology @ University of Pavia (Italy)

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CONFERENCE ORGANIZATIVE TEAM MEMBER

- XXIV School of Physiology and Biophysics 2021 "NEURONAL BIOPHYSICS: FROM EXPERIMENTS TO MODELS" - Pavia, July 5-7, 2021 (allegato TeamCongr_2021_SIF.pdf)
- Invited speaker for more than 20 international conferences, seminars or schools

MEMBERSHIP

2013/present	International Society for Magnetic Resonance in Medicine (ISMRM)
2018/present	Associazione Italiana di RM in Medicina (AIRMM)
2021	Society for Neuroscience (SfN)

AWARDS

2023	ISMRM Summa cum Laude Award
2022	ISMRM Summa cum Laude Award
2019	"Best poster award" at School of Brain Cells & Circuits "Camillo Golgi" - Ettore Majorana Foundation and Centre for Scientific Culture, Erice (Italy)
2018	"Best paper award" at IRCCS Mondino Foundation
2017	"1st prize" at ISMRM Tractography reproducibility challenge ISMRM Summa cum Laude Award
2015	ISMRM Magna cum Laude Award
2014	ISMRM Magna cum Laude Award