



Rachele Fabbri

Date of birth: 09/06/1995 | **Nationality:** Italian | **Email address:** fabbriachele@gmail.com |
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ABOUT ME

I am a biomedical engineer with a PhD in computational neuroscience. I am currently working in academic research, focusing on human biosignal analysis

EDUCATION AND TRAINING

01/11/2021 – 31/10/2024 Pisa, Italy

PHD IN INFORMATION ENGINEERING University of Pisa

Website <https://www.unipi.it/> | **Field of study** Engineering, manufacturing and construction | **Final grade** Excellent |

Level in EQF EQF level 8 | **Thesis** Sleeping neurons: an integrated in vitro-in silico methodology for studying human sleep

14/02/2021 Florence, Italy

PROFESSIONAL QUALIFICATION OF INDUSTRIAL ENGINEER University of Florence

Website <https://www.unifi.it/it>

01/10/2018 – 27/04/2021 Florence, Italy

MSC IN BIOMEDICAL ENGINEERING University of Florence

Website <https://www.unifi.it/it> | **Final grade** 110/100 cum Laude | **Level in EQF** EQF level 7

01/09/2014 – 05/10/2018 Florence, Italy

BSC IN ELECTRONICS AND TELECOMMUNICATION ENGINEERING University of Florence

Website <https://www.unifi.it/it> | **Final grade** 108/110 | **Level in EQF** EQF level 6

01/09/2009 – 01/07/2014 Montevarchi, Italy

DIPLOMA OF CLASSICAL STUDIES Liceo classico Benedetto Varchi

Website <https://www.isisvarchi.edu.it/> | **Final grade** 100/100 | **Level in EQF** EQF level 4

WORK EXPERIENCE

POST-DOCTORAL RESEARCH FELLOW – UNIVERSITY OF FLORENCE, DEPARTMENT OF INFORMATION ENGINEERING – 01/12/2024 – Current – SESTO FIORENTINO, ITALY

I am working in a multidisciplinary project in the field of neuropsychology. I developed a setup for hyperscanning experiments, where EEG, ECG, GSR and respiration rate are collected from two subjects performing a task. I am developing algorithms for analysing the collected signals and I am coordinating the multidisciplinary research group involved in the project.

COLLABORATOR IN TECHNICAL PROJECTS FOR HOSPITALS – PROF. ERNESTO IADANZA – 01/01/2021 – 05/06/2025 – FLORENCE, ITALY

Collaboration with Professor Ernesto Iadanza in the writing of technical proposals for tenders for Clinical Engineering Global Services in important Italian hospitals. In these works also companies like Sof, Philips, GE Healthcare and Olympus were involved as principal agents of the work.

● PUBLICATIONS

2025

[When in vitro is not enough: In silico strategies to investigate functional and dynamical properties of large-scale neuronal assemblies](#)

Callegari, F., Fabbri, R., Barabino, V., Massobrio, P., Magliaro, C., & Brofiga, M. (2025). APL bioengineering, 9(4).

2025

[Digitoids: a novel computational platform for mimicking oxygen-dependent firing dynamics in in vitro neuronal networks](#)

Write here the description...

Fabbri, R., Botte, E., Ahluwalia, A., & Magliaro, C. (2025). Frontiers in Neuroinformatics, 19, 1549916.

2023

[Advanced 3D models of human brain tissue using neural cell lines: state-of-the-art and future prospects](#)

Fabbri, R., Cacopardo, L., Ahluwalia, A., & Magliaro, C. (2023). Cells, 12(8), 1181.

2022

[Analysis of Brain-Heart Interactions in newborns with and without seizures using the Convergent Cross Mapping approach](#)

Frassinetti, L., et al. (2022, July). "Brain-Heart Interactions." In EMBC 2022. (pp. 36-39). IEEE.

2021

[Machine learning for analysis of gene expression data in fast-and slow-progressing amyotrophic lateral sclerosis murine models](#)

Iadanza, E., et al. (2022). "Machine learning for ALS". Biocybernetics, 42(1), 273-284.

2021

[Modeling of pupillometric signals for studying children's rare diseases](#)

Fabbri, R., et al. (2021). "Modeling pupillometric signals." In APCMBE 2020, (pp. 83-90). Springer.

2020

[Gut microbiota and artificial intelligence approaches: A scoping review](#)

Iadanza, E., et al. (2020). "Gut microbiota and AI". Health and Technology, 10(6), 1343-1358.

2020

[Neonatal Seizures Detection using Stationary Wavelet Transform and Deep Neural Networks: Preliminary Results](#)

Frassinetti, L., et al. (2020, June). "Neonatal seizures." In 2020 MELECON (pp. 344-349). IEEE.

2019

[A collaborative RESTful cloud-based tool for management of chromatic pupillometry in a clinical trial](#)

Iadanza, E., et al. (2020). "RESTful cloud-based tool". Health and Technology, 10, 25-38.

Iadanza, E., et al. (2020). "ORÁO." In CMBEBIH 2019, (pp. 713-720). Springer International.

● CONFERENCES AND SEMINARS

16/09/2024 – 19/09/2024 Bressanone, Italy

Summer School of Gruppo Nazionale di Bioingegneria (GNB)

25/06/2024 – 29/06/2024 Vienna, Austria

Federation of European Neuroscience Societies (FENS) Forum 2024

13/09/2023 – 15/09/2023 Milan, Italy

IV Convegno del Centro 3R

18/01/2023 – 20/01/2023 Madrid, Spain

7th Human Brain Project Student Conference on Interdisciplinary Brain Research

18/07/2022 – 22/07/2022 Genova, Italy

8th International Summer School of Neuroengineering Massimo Grattarola - Artificial and augmented sensing for humans and humanoids

09/07/2022 – 13/07/2022 Paris, France

Federation of European Neuroscience Societies (FENS) Forum 2022

10/11/2020 – 13/11/2023 Online

Congresso Nazionale dell'Associazione Italiana Ingegneri Cinici (AIIC 2020)

25/05/2020 – 27/05/2020 Online

Asian Pacific Conference on Medical and Biological Engineering (APCMBE 2020)

21/09/2019 – 22/09/2019 Rome, Italy

International Clinical Engineering and Health Technology Management Congress (ICEHTMC 2019)

16/09/2019 – 20/09/2019 Bucharest, Romania

Summer School on Imaging with Medical Applications (SSIMA 2019)

17/05/2019 – 19/05/2019 Banja Luka, Bosnia Erzegovina

International Conference on Medical and Biological Engineering (CMBEBIH 2019)

● HONOURS AND AWARDS

20/01/2023

Best presentation award – Human Brain Project Education Programme

01/02/2020

Student Paper Competition – merican College of Clinical Engineering (ACCE)

01/12/2019

Miglior tesi triennale nel settore Informazione - Premio di Laurea e Borse di Studio in ingegneria in memoria degli Ing. Piero Ciullini e Ing. Andrea Chiarugi – Ordine degli Ingegneri della Provincia di Firenze

22/10/2019

Best work - Health Technology Challenge, nella categoria ICT and Medical Informatics – International Clinical Engineering and Health Technology Management Congress 2019

19/05/2019

Best paper - Student Competition – International Conference on Medical and Biological Engineering

● **LANGUAGE SKILLS**

Mother tongue(s): **ITALIAN**

Other language(s):

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

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

● **CERTIFICATIONS**

20/06/2020

Machine Learning

Online course provided by Stanford University on the platform Coursera.

Dichiarazione sostitutiva di certificazione (art. 46 e 47 D.P.R. 445/2000): La sottoscritta Rachele Fabbri dichiara ai sensi e per gli effetti degli articoli 46 e 47 e consapevole delle sanzioni penali previste dall'articolo 76 del D.P. R. 28 dicembre 2000, n. 445 nelle ipotesi di falsità in atti e dichiarazioni mendaci, dichiara che le informazioni riportate nel presente curriculum vitae corrispondono a verità.

Firenze , 18/12/2025

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