

Emma Chiaramello – Curriculum Vitae

Personal information

First name(s) / Surname(s)	Emma Chiaramello
E-mail	
Nationality	
Date of birth	
Gender	

Occupational field

Summary

Emma Chiaramello received the Master degree and the PhD in Biomedical Engineering from the Polytechnic of Torino in 2009 and 2013, respectively. From 2013 to 2019 she has been post-doc research fellow at the Institute of Electronics, Computer and Telecommunication Engineering (IEIIT) of the National Research Council (CNR) of Italy. Since November 2019 she has a permanent position as Research Scientist at the same institute. Her scientific interests focus on the study of the interactions between Electromagnetic fields (EMF) and biological systems, both with computational bio-electromagnetism methods and with stochastic methods, for modelling, designing and optimizing biomedical technologies based on the use of EMF for diagnostic, therapeutic and rehabilitation applications, as well as for EMF exposure assessment.

Current positions

Dates	November 2019 - ongoing
Occupation or position held	Research Scientist
Main activities and responsibilities	<p>Scientific activities related to</p> <ul style="list-style-type: none"> • EMF modelling of innovative neurostimulation approaches, such as magnetic and magnetoelectric nanoparticles, brain stimulation techniques (TMS, tDCS, DBS), , and innovative approach in electroporation for drug delivery • EMF human exposure assessment in upcoming and realistic scenarios (5G/Beyond 5G/6G technologies, smart mobility) by deterministic computational dosimetry and stochastic dosimetry based on uncertainty propagation <p>Responsibilities in National and International projects as research unit member and PI</p>
Name and address of employer	CNR IEIIT – Consiglio Nazionale delle Ricerche, Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni (IEIIT), Torino c/o Politecnico di Torino, C.so Duca degli Abruzzi 24, 10129, Torino
Type of business or sector	Public research
Dates	02/2013 – 10/2019
Occupation or position held	Post-Doc Research Fellow
Main activities and responsibilities	<ul style="list-style-type: none"> • Research activities focused on the use of bioelectromagnetics methods for the study of the interactions between EMF and biological systems, for the evaluation of human and environmental exposure to EMF and for modeling of medical devices based on the interactions between EMF and biological tissues • Research activities focused on the use of biomedical signal processing approaches for dealing with hearing and motor impairments
Name and address of employer	CNR IEIIT – Consiglio Nazionale delle Ricerche, Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni (IEIIT), Torino c/o Politecnico di Torino, C.so Duca degli Abruzzi 24, 10129, Torino
Type of business or sector	Public research
Dates	May-June 2018

Occupation or position held	Visiting researcher
Main activities and responsibilities	Research activities focused on the use of surrogate models and uncertainty propagation methods for evaluating human exposure to radio-frequency EMF in highly variable and uncertain exposure scenarios.
Name and address of employer	Chaire C2M, LTCI, Telecom ParisTech, Université Paris Saclay, Paris, France

Dates	April 2017
Occupation or position held	Visiting researcher
Main activities and responsibilities	Short Term Scientific Mission (STSM) grant holder in the framework of European Cooperation in Science and Technology COST action BM0704 “Emerging EMF Technologies and Health Risk Management”
Name and address of employer	Chaire C2M, LTCI, Telecom ParisTech, Université Paris Saclay, Paris, France

Education and training

Dates	01/2010 – 12/2012
Title of qualification awarded	PhD in Biomedical Engineering (XXV cycle)
Name and type of organisation providing education and training	Politecnico di Torino
Dates	09/2007 – 12/2009
Title of qualification awarded	M.Sc. Degree in Biomedical Engineering, 110/110
Name and type of organisation providing education and training	Politecnico di Torino

Dates	09/2004 – 09/2007
Title of qualification awarded	Degree in Biomedical Engineering 110L/110
Name and type of organisation providing education and training	Politecnico di Torino

Selected publications

Publication summary: 41 journal papers, about 40 peer-reviewed conference papers, about 45 short papers. H-index: 13 (Scopus), 14 (Scholar). Citations: 567 (Scopus), 831 (Scholar).

- [Chiaromello, E.](#), Fiocchi, S., Bonato, M., Marrella, A., Suarato, G., Parazzini, M., & Ravazzani, P. Magnetoelectric Nanoparticles: Evaluating Stimulation Feasibility of the Possible Next Generation Approach for Deep Brain Stimulation, IEEE Access, 2022, 10, 124884 – 124893.
- Fiocchi, S., [Chiaromello, E.](#), Marrella, A., Bonato, M., Parazzini, M., & Ravazzani, P. Modelling of magnetoelectric nanoparticles for non-invasive brain stimulation: a computational study. Journal of Neural Engineering, 2022, 19(5), 056020.
- Fiocchi, S., [Chiaromello, E.](#), Marrella, A., Suarato, G., Bonato, M., Parazzini, M., & Ravazzani, P. Modeling of core-shell magneto-electric nanoparticles for biomedical applications: Effect of composition, dimension, and magnetic field features on magnetoelectric response. PloS one, 2022, 17(9), e0274676.
- [Chiaromello, E.](#), Fiocchi, S., Bonato, M., ...Benini, M., Parazzini, M., Use of nanoparticles as nanoelectrodes in contact-less cell membrane permeabilization by time-varying magnetic field: A computational study, Applied Sciences, 2021, 11(23), 11121
- [Chiaromello, E.](#), Fiocchi, S., Bonato, M., ...Benini, M., Parazzini, M., Cell transmembrane potential in contactless permeabilization by time-varying magnetic fields, Computers in Biology and Medicine, 2021, 135, 104587

Additional information

Projects

- 2022-2026: PNC PNRR Fit4MedRob – Fit for Medical Robotics, 25 partners, Budget € 126.000.000. Role: PI of the research unit.
- 2022-2027: “Horizon GOLIAT - 5G expOsure, causal effects, and rIsk perception through citizen engagement” (ID Project: 101057262, Grant Agreement in preparation), 22 Partners, Budget € 8.000.000. Role: WP member.
- 2021-2023 “Expert support in raising awareness of stakeholders on the issue of electric and magnetic fields at the transition of the 220 kV Beričevo-Divača network to 400 kV”, Research contract with ELES d.o.o, Ljubana. 10 Partners; Budget:195.580 euro. Role: PI of the research unit
- 2020-2023: “RFBIO - Biological Effects of Radiofrequency Electromagnetic Fields”, financed by EDA (Contract N. B 0987 IAP2 GP). 7 Partners, Budget € 2.400.000. Role: WP member.
- 2020-2024: “EXPOAUTO Cumulative real smart car exposure to radiofrequency electromagnetic fields in people of different ages from new technologies in automotive services and connected objects”, financed by Anses (2020-2024, 2020/2 RF/05,). 3 Partners, Budget € 240.000. Role: Project Board Member, WP member.
- 2019-2021: “ESPOJAM Valutazione dell’ESPOsizione a campi RF generati da Jammer Militari” (2019-2021, Grant Agreement CIG Z5F28C0BF0 rep n. 2052), financed by Ministero della Difesa – Segretariato Generale della Difesa e Direzione Nazionale degli Armamenti. 1 Partner, 3 research units, Budget € 554.356,15. Role: WP member.
- 2017-2021: “H2020 CUPIDO - Ultraefficient nanoParticles for Inhalation of Drug prOducts”, (2017-2021, Grant Agreement N. 720834). 12 Partners, Budget € 6.094.000. Role: WP member.
- 2016-2020: “AMPERE - Advanced MapPing for the residential ExposuRE to RF- EMF sources” financed by Anses (2016-2020, 2016-RF-04,). 6 Partners, Budget 395.000. Role: WP member
- 2015-2019: “ELFSTAT - In depth evaluation of children’s exposure to ELF (40 – 800 Hz) magnetic fields and implications for health risk of new technologies” financed by Anses (2015-2019, cod. 2015/01/202,). 3 Partners, Budget 199.999. Role: WP member
- 2014-2018: “FP7 GERONIMO – Generalized EMF Research using Novel Methods - an integrated approach: from research to risk assessment and support to risk management” (2014-2018, Grant agreement N. 603794). 19 Partners, Budget 5.949.648. Role: WP member.

Teaching and supervising activities

- A.A.2018-19, 2015-16: “Informatica e elementi di informatica medica”, Degree in Biomedical Engineering, Politecnico di Milano, Role: teaching assistant
- A.A. 2017-18: “Bioelettromagnetismo e strumentazione biomedica”, Degree in Biomedical Engineering, Politecnico di Milano, Role: teaching assistant
- A.A. 2015-16: “E-health methods and applications”, Master Degree in Biomedical Engineering, Politecnico di Milano, Role: teaching assistant
- Supervisor of 3 MSc student, 6 BSc students in Biomedical Engineering, Politecnico di Milano

Editorial activities

- 2021-today: Lead Guest Editor for International Journal of Environmental Research and Public Health, Special Issue “EMF Exposure Assessment in 5G and 6G Emerging Scenarios in Humans and Environment” (with M. Bonato and S. Aerts)
- 2019-2020: Guest Editor for International Journal of Environmental Research and Public Health, Special Issue “Machine Learning, Stochastic Modelling and Applied Statistics for EMF Exposure Assessment” (with G. Tognola, M. Taki, J. Wiart)
- 2020-today: Topical Advisory Panel Member for International Journal of Environmental Research and Public Health
- 2013-today: Reviewer for, among the others: Bioelectromagnetics, IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology, Environmental , International Journal of Environmental Research and Public Health , Applied Sciences, Journal Of Exposure Science And Environmental Epidemiology, Computational and Mathematical Methods in Medicine, Annals of Telecommunications, Applied Computational Electromagnetics Society Journal, Biomedical physics and engineering express, Journal of Physics D: Applied Physics.

Responsibilities in conferences

- 2023 BioEM – Annual Joint meeting of the Bioelectromagnetics Society (BEMS) and the European BioElectromagnetics Association (EBEA) - Chair of the Workshop “Magnetoelectric nanoparticles: principles and applications in medicine and biology”

Memberships and commissions

- 2021-today: Member of the Institute of Electrical and Electronic Engineers (IEEE)
- 2018-today: Founder member of the Gruppo Nazionale di Bioingegneria
- 2019- today IEIIT CNR grants (Post-doc, research fellow) evaluation commission
- 2022 Referee for the Doctoral School of Politecnico di Torino (XXXIII cycle)

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

Torino, 17/07/2024

Emma Chiaramello



Emma Chiaramello
17.07.2024 08:55:58
GMT+00:00