

CURRICULUM VITAE

PERSONAL INFORMATION

Micaela Liberti



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Gender **F** | Nationality Italian

Database	Scopus	ORCID	WoS ResearcherID	Loop
ID	7003486521	0000-0002-7494-2696	T-7522-2017	143331

EMPLOYMENTS and WORK EXPERIENCE

Position From November 2019	Associate Professor Department of Information Engineering, Electronics and Telecommunication, University of Rome Sapienza
from 2002 – October 2019	Assistant Professor Department of Information Engineering, Electronics and Telecommunications, University of Rome Sapienza
from 2021 – today	Affiliated Researcher Center for Life Nano- & Neuro-Science, Italian Institute of Technology IIT (CLN2S@SAPIENZA)
July 2005	Visiting Researcher IMS-CNRS, Bordeaux, France
from 2000 – 2001	Post-Doc Position Italian InterUniversity Centre for Electromagnetic Fields and Biosystems, University of Genova
from 1996 – 1998	Researcher of High Qualification in Telemedicine (Fellowship) Italian Ministry of University and Research

EDUCATION and ACADEMIC DEGREES

2000	PhD in Electronic Engineering University of Rome Sapienza	
1995	Laurea Degree in Electronic Engineering University of Rome Sapienza	110/110

ACHIEVEMENTS and AWARD

From 2022 – today	Member of TC-28 Biological Effects and Medical Applications Committee IEEE Microwave Theory and Technology Society
From 2021 – today	Member of Technical Advisory Committee Union Radio Science International Commission K: Electromagnetics in Biology and Medicine
from sept 2021 – mar 2022	PRESIDENT ad INTERIM BIOEM SOCIETY (Founder)
from 2020 – today	Member of Scientific Expert Group for Low Frequency Guidelines International Commission Non-Ionizing Radiation Protection (ICNIRP)
from 2020 – today (last two years)	MEMBER of LOCAL / TECHNICAL ORGANIZING COMMITTEE: <ol style="list-style-type: none">5th World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine, and Food & Environmental TechnologiesEuropean Conference Antennas and Propagation, 2023 Florence, ItalyCo-chair of Doctoral School “Microwaves for Emerging Medical Technologies”, European Microwave Week 2022

- 4) Chair of Focus and Special Sessions Programme, European Microwave Week 2022, Milan, Italy
- 5) BIOEM2022, Annual Meeting of the BioEM Society June 2022, Nagoya, Japan2022
IEEE MTT-S International Microwave Biomedical Conference (IMBioC)
- 6) Union Radio Science International General Assembly 2021 Rome.

from 2019 – 2021

PRESIDENT

European Bioelectromagnetics Association (EBEA).

2018

BENEFICIARY of the Fund for the financing of basic research activities, FFABR-Miur 2017.

Italian Ministry of Education, University and Research

2018

Reviewer for the French National Research Agency.

Generic Call for Proposals 2018

from 2017 – today

Expert Peer Reviewer for Italian Scientific Evaluation (REPRISE)

Italian Ministry of Education, University and Research

from 2012 – 2016

National Substitute Member of the Management Committee BMBS COST Action TD1104: European network for development of electroporation-based technologies and treatments (EP4Bio2Med)

Italian Ministry of Education, University and Research

from 2011 – 2019

SCIENTIFIC SECRETARY

European Bioelectromagnetics Association (EBEA).

from 2011 – 2019

CHAIR of TECHNICAL PROGRAM COMMITTEE

1) Co-CHAIR of BIOEM2019, Joint Annual Meeting of the Bioelectromagnetics Society (BEMS) and European Bioelectromagnetics Association (EBEA), 23-28 June 2019, Montpellier, France.

2) CHAIR del 10th International Congress of the European Bioelectromagnetics Association (EBEA2011), Rome, 21-24 February 2011.

EDITORIAL AND REVIEW ACTIVITY

ASSOCIATE EDITOR

from 2017 – today

-IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology. IEEE

-Frontiers in Public Health - Radiation and Health. Frontiers

-Mathematics. MDPI

from 2015 – 2021

REVIEW EDITOR

Frontiers in Public Health - Radiation and Health.

REVIEWER

71 papers for Journals and Conference proceedings, verified by Publons/WebofScience (<https://www.webofscience.com/wos/author/record/1645512>), among which

- Scientific Reports

from 2008 – today

- IEEE Transactions on Biomedical Engineering

- Nanomaterials

- Journal of Neural Engineering

- Annals of Biomedical Engineering

- Plos One

MAJOR INVITED SPEAKER (last 5 Years)

1) Invited Speaker: IEEE MTT-S International Microwave Biomedical Conference 2023 (IMBioC2023), 11-13 September 2023, Leuven, Belgium.

2) KeyNote Speaker: European Microwave Week 2022, 25-30 September 2022, Milan, Italy

3) Invited Speaker: European Microwave Week 2021, 2-7 April 2022, London, UK, Workshop: " Microwave and millimeter waves techniques for sensing, imaging and characterisation of biological tissues".

4) Invited Speaker: IEEE MTT-S International Microwave Biomedical Conference 2019 (IMBioC2019), 06-08 May 2019, Nanjing, China, Special Session: "From microwave sensing to electromagnetic effects on cells".

5) Invited Speaker: 3rd International Brain Stimulation Conference, Vancouver, 24-27 February 2019 Symposium: "Innovative techniques for non-invasive, low-energy, brain

stimulation: from models to potential clinical applications.

6) Invited Speaker: European Microwave Week 2018, 23-28 September 2018, Madrid, Spain, Workshop: "Microwaves for Biomedical Applications".

7) Plenary Lecture: IEEE MTT-S International Microwave Biomedical Conference 2018 (IMBioC2018), 14-15 June 2018, Philadelphia, USA, "Microdosimetry: shared knowledge, gaps and challenges".

RESEARCH FUNDINGS and GRANTS (last 5 years)

- 2023 **NEAT-MOVE (cerebellar NEuromodulation in ATaxia: digital cerebellar twin to predict the MOVEment rescue)**
Italian Minister University and Research – PNRR- PRIN 2022. CUP. B53D2301842 0006 70 kEuro
- 2021 **RiseUP (Regeneration of Injured Spinal Cord by Electro Pulsed Bio-Hybrid Approach)**
European Union's Horizon 2020 FET OPEN research and innovation programme under grant agreement No. 964562 366 kEuro
- 2021 **PING (Smart Pills For Neuroscience and Gastroenterology)**
POR FESR LAZIO 2014-2020. GRUPPI DI RICERCA 2020, GeCoWEB numero A0375-2020-36612 50 kEuro
- 2021 **Calculation of the induced electric field in vertebral metastases for the electrochemotherapy treatment planning**
SubContractor progetto prot. CR/2019/ 15234 Regione Emilia-Romagna "Elettrodo Bipolare Coassiale e Software di Pianificazione Pre-operatoria per il Trattamento di Metastasi Vertebrali", C.U.P. _E91B19000690008. 40 kEuro
- 2019 **E-nTMS (Effective navigated Transcranial Magnetic Stimulation)**
POR FESR Lazio 2014-2020. Progetto T0002E0001-A0128 - Avviso Pubblico "Creatività 2020" - Determinazione n. G12783/2017 protocollo A0128-2017-17212 80 kEuro

PATENTS

- 2022 ▪ INVENTOR Italian PATENT 102021000030557 _Detection of viruses via microwave dielectric spectroscopy (Pending)
- 2017 ▪ INVENTOR European/USA PATENT: WO2017IB50236 20170117 (also published as EP3405562, TUB20160311, US2019060631) FLEXIBLE ELECTRODE FOR APPLYING AN ELECTRIC FIELD TO THE HUMAN BODY

ACADEMIC DUTIES

- from 2011 – today **Supervisor of PhD Students**
Sapienza University of Rome, DIET
XXXVIII Ph.D. Course, 2022-2025: " Bioelectromagnetism Empowered by Image-based Virtual Model"
XXXVII Ph.D. Course, 2021-2024: "Innovative Biomedical Applications of Electric and Magnetic Fields on the Nervous System"
XXXIII Ph.D. Course, 2017-2020: "Bioelectromagnetics: computational modeling of electromagnetic fields for therapeutics and diagnostics"
XXIX Ph.D. Course, 2013- 2016: Computational modeling and measurements of electromagnetic fields for diagnostics and therapeutics
XXVIII Ph.D. Course, 2012- 2015: "Electrical and magnetic stimulation of the central nervous system: identification of action mechanisms and optimization of applications"
XXVII Ph.D. Course, 2011- 2014: "Technological and theoretical studies of effects of ultra-short pulses on the biological system
- from 2010 – today **Supervisor of Post-Doc Researchers**
Sapienza University of Rome, DIET
2022: " Bioelectromagnetic Interaction Between Intelligent Pills For Endoscopy And Neuro-Gastric Tissues"
2022: "Experimental activity of characterization and control of exposure systems for pulsed electric fields for in vitro experimental models"
2021: "Development of computational models for the electromagnetic stimulation of the nervous system "

2015: "Analysis and development of innovative technologies for electrodes in electroporation medical applications supported by micro and macro dosimetric models"

Italian InterUniversity Centre for Electromagnetic Fields and Biosystems, University of Genova

2019-2022: "Software Set-up for Electroporation Treatment Planning"

2018: "Numerical and Experimental Studies of electroporation for vegetable juices sanitification"

2010-2012: "Experimental methodologies for electromagnetic assessment of exposure to emerging wireless signals"

from 2020

Member of Selection Board for Fixed-term Research Assistant Positions

2022: Fixed-term Research Assistant type B (tenure track), University of Pavia

2021: 3 Fixed-term Research Assistant type A: University of Siena, University of Bologna, University of Pavia

from 2013

Member of the Examination Board for PhD defence, External Reviewer

2022, University of Rennes, France

2019, University of Rennes, France

2017, University of TorVergata

2013, Università Politecnico di Torino

MAIN RESEARCH INTERESTS

Bioelectromagnetics and
Biomedical Application of
Electromagnetic Fields

- 1) Transcranial Magnetic Stimulation, miniaturized coils for focused stimulation
- 2) Low level Pulsed ElectroMagnetic fields stimulation of CNS and PNS
- 3) Electrochemotherapy, Electroporation, Nanoporation
- 3) Electromagnetic Exposure Systems, Electric and Magnetic applicators and devices
- 4) Electromagnetic, Electric and Magnetic Microdosimetry,
- 5) BioElectromagnetic Interaction Mechanisms, Molecular Simulations
- 6) Drug Delivery Mediated by Electric and Magnetic Fields

SUMMARY OF SCIENTIFIC ACHIEVEMENTS (Sept 2023)

from	to	Type of Publication	Number	Database
2000	2023	Papers on peer review journals	100	Scopus
2017	2023	Book Chapter	2	Scopus
2001	2022	Proceedings	114	Scopus

Total Citations	2585	Scopus
Hirsch (H) index	30	Scopus
Average Citations per Product	12	Scopus
Average Citations per Year	198	Scopus
Avg Journal Impact Factor (last 3 years)	4.16	WoS
Avg Journal Impact Factor (last 5 years)	3.47	WoS
Avg Journal Impact Factor (whole career)	2.86	WoS
Total Journal Impact Factor	254.654	WoS

RELEVANT SELECTED PUBLICATIONS (last five years)

	Authors	Title	Journal	Best SJR	IF JCR
1	Natale, G., Colella, M., De Carluccio, M., ...Liberti, M., Ghiglieri, V.	Astrocyte Responses Influence Local Effects of Whole-Brain Magnetic Stimulation in Parkinsonian Rats	(2023) Movement Disorders	Q1	8.679
2	Colella, M., Meo, S.D., Liberti, M., Pasion, M., Apollonio, F.	Advantages and Disadvantages of Computational Dosimetry Strategies in the Low mmW Range: Comparison Between Multilayer Slab and Anthropomorphic Models	(2023) IEEE Transactions on Microwave Theory and Techniques	Q1	4.381
3	Colella, M., Press, D.Z., Laher, R.M., ...Liberti, M., Bonmassar, G.	A study of flex miniaturized coils for focal nerve magnetic stimulation	(2023) Medical Physics, 50(3), pp. 1779–1792	Q1	4.506
4	D'Agostino S., Colella M., Liberti M., Falsaperla R.,	Systematic numerical assessment of occupational exposure to electromagnetic fields of transcranial	(2022) Medical Physics, 49(5), pp.	Q1	4.071

	Apollonio F.	magnetic stimulation	3416–3431		
5	Capone F., Salati S., Vincenzi F., Liberti M., Aicardi G., Apollonio F., Varani K., Cadossi R., Di Lazzaro V.	Pulsed Electromagnetic Fields: A Novel Attractive Therapeutic Opportunity for Neuroprotection After Acute Cerebral Ischemia	(2022) <i>Neuromodulation</i> , art. No 13489	Q1	4.722
6	Colella M., Paffi A., de Santis V., Apollonio F., Liberti M.	Effect of skin conductivity on the electric field induced by transcranial stimulation techniques in different head models	(2021) <i>Physics In Medicine And Biology</i> , 66 (3), art. no. 35010.	Q1	3.609
7	De Angelis A., Leonetti M., Apollonio F., Liberti M., Aglioti S. M., Ruocco G.	Computational optimization of transcranial focused ultrasound stimulation: Toward noninvasive, selective stimulation of deep brain structures	(2021) <i>Applied Physics Letters</i> , 118 (23) art. no. 233702.	Q1	3.791
8	Colella M., Camera F., Capone F., Setti S., Cadossi R., Di Lazzaro V., Apollonio F., Liberti, M.	Patient Semi-specific Computational Modeling of EM Stimulation Applied to Neuroprotective Treatments in Acute Ischemic Stroke.	(2020) <i>Scientific Reports</i> , 10 (1), art. no. 2945.	Q1	4.38
9	Caramazza L., Nardoni M., De Angelis A., Paolicelli P., Liberti M., Apollonio F., Petralito S.	Proof-of-concept of electrical activation of liposome nanocarriers: from dry to wet experiments	2020 <i>Frontiers In Bioengineering And Biotechnology</i> , 8, art. no 819.	Q1	5.89
10	Casciola M., Xiao S., Apollonio F., Paffi A., Liberti M., Muratori C., Pakhomov A.G.	Cancellation of nerve excitation by the reversal of nanosecond stimulus polarity and its relevance to the gating time of sodium channels	(2019) <i>Cellular and Molecular Life Sciences</i> , 76(22), pp. 4539-4550.	Q1	6.496
11	Merla C., Liberti M., Marracino P., Muscat A., Azan A., Apollonio F., Mir L.M.	A wide-band bio-chip for real-time optical detection of bioelectromagnetic interactions with cells	(2018) <i>Scientific Reports</i> , 8 (1), art. no. 5044.	Q1	4.011
12	Orcioni S., Paffi A., Camera F., Apollonio F., Liberti M.	Automatic decoding of input sinusoidal signal in a neuron model: High pass homomorphic filtering	(2018) <i>NeuroComputing</i> , 292, pp 165-173.	Q1	4.072