

Curriculum Vitae Europass



Personal information

First name(s) / Surname(s) **Sieni Elisabetta**

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Nationality Italian

Date of birth 22/02/1977

Gender F

Work experience

Current

Dates 15 December 2021 - today

Position held Associated professor (electrical engineering) IIET-01/A ex ING-IND/31

Name and address of employer Department of Theoretical and Applied Sciences – DiSTA, via Dunant, 3,Varese, Italy

Dates 1 October 2022 - today

Position held Contract professor at Pavia university (electrical engineering) IIET-01/A ex ING-IND/31 – teaching: Safety in Engineering and technology

Name and address of employer Department of Electrical, Computer and Biomedical Engineering, Pavia University, Via Ferrata 5 Pavia, Italy

Dates October 2022 – to now

Position held Associate professor in the PhD teaching staff at PhD school in industrial engineering

Name and address of employer Department of industrial engineering Padova University, Italy

Researcher positions

Dates 15 December 2018 - 14 December 2021

Position held Assistant professor (electrical engineering) RTD-B= ING-IND/31

Name and address of employer Department of Theoretical and Applied Sciences – DiSTA, via Dunant, 3,Varese, Italy

Dates October 2018 – 2022

Position held Researcher in the PhD teaching staff at PhD school in industrial engineering

Name and address of employer Department of industrial engineering Padova University, Italy

Dates 1 December 2015 – 30 November 2018

Position held Assistant professor (electrical engineering) RTD-A= ING-IND/31

Name and address of employer Department of Industrial Engineering Università di Padova, via Gradenigo 6/a Padova, Italy

Post-doc position at Padova University

Dates May 1, 2014 April 30, 2015

Position held Scholarship grant (progetto di Ateneo (CPDA138001)): Progetto di un nuovo elettrodo a maglia per il trattamento di metastasi superficiali diffuse: miglioramento del trattamento di elettrochemioterapia (Rep. N. 107 Prot. N. 1349/III/13.94 del 28/04/2014)

Main activities and responsibilities Design and tests for Electrochemotherapy electrodes
Supervisor: prof Fabrizio Dughiero

Name and address of employer Università di Padova, via VIII Febbraio Padova, Italy

Type of business or sector Research

Dates 01 gennaio 2012 – 31 dicembre 2013

Position held Scholarship grant (Università di Padova) - Improvement of electrochemotherapy technique: development of a pre-treatment planning for electroporation of deep-seated tumors, design of a new electrode for larger skin surfaces and investigation on electrical tissues impedance to refine treatment parameters (Prot. N. 466/11VII/1.4)

Main activities and responsibilities Design and tests for Electrochemotherapy electrodes (Patented 2015) tumor tissue electrical characteristics
Supervisor: prof Fabrizio Dughiero

Name and address of employer Department of Industrial Engineering Università di Padova, via Gradenigo 6/a Padova, Italy

Type of business or sector Research

Dates 02 May 2011-31 December 2011

Position held Scholarship grant - HEECS – High Efficiency Electronics Cooking Systems (EU project)

Main activities and responsibilities Study of the energy efficiency.
European project (HEECS)
Supervisor: prof Fabrizio Dughiero

Name and address of employer Department of Industrial Engineering Università di Padova, via Gradenigo 6/a Padova, Italy

Type of business or sector Research

Outdoor mobility

Date **April 12-17, 2026**

Project and Place of mobility Erasmus teaching at Plovdiv Medical university, Plovdiv Bulgaria

Topic Electroporation in 3D and 2D

Date **February 24-March 3**

Project and Place of mobility Erasmus teaching at UPF Barcelona, Spain

Topic Electroporation in 3D and 2D

Date **January 26 - February 6 2026**

Project and Place of mobility visiting professor at Purdue University, Lafayette, Indiana USA

Topic Electric transmission line modelization and research activity in electrochemotherapy

Date **November 23-27 2025**

Project and Place of mobility Erasmus teaching at Vilnius (CENTER FOR PHYSICAL SCIENCES AND TECHNOLOGY)

Topic Electroporation technology in cancer care

Date **July 21 – 25, 2025**

Project and Place of mobility Erasmus teaching Joensuu Finland

Topic Teaching related to electroporation and 3D culture in electroporation
Date **July 1 – 8, 2025 and September 8 -12, 2025**
Project and Place of mobility Erasmus teaching Université Paul Sabatier Tolosa

Topic Teaching related to electrical properties in Electroporation and FEM simulations in electroporation
Date **27 June – 1 July and 28-30 July 2025**
Project and Place of mobility University of Salerno

Topic Research related to electroporation and aviation
Date **May 27-June 5, 2025**
Project and Place of mobility Visiting professor at Paavai college, Namakkal, India

Topic Teaching activity in these fields: Electroporation technology in cancer care, photovoltaic plant design, wireless technology for battery recharge, hyperthermia applications, bioelectromagnetic
Date **March 24-27 2025 and September 1-2, 2025**
Project and Place of mobility Erasmus teaching at Vilnius (CENTER FOR PHYSICAL SCIENCES AND TECHNOLOGY)

Topic Electroporation technology in cancer care
Date **January 26 - February 7 2025**
Project and Place of mobility visiting professor at Purdue University, Lafayette, Indiana USA

Topic Electric transmission line modulization and research activity in electrochemotherapy
Date **January 12-17 2025**
Project and Place of mobility Visiting professor at Ouargla university, Algeria

Topic Photovoltaic and nanoparticles applications
Date **September 30- October 4, 2024**
Project and Place of mobility Erasmus teaching at Vilnius (CENTER FOR PHYSICAL SCIENCES AND TECHNOLOGY)

Topic Photovoltaic application
Date **3-4 January and 6-9 February 2024, 29 april-3 may, 23-26 June 2024 and 24-31 July 2024**
Project and Place of mobility University of Salerno

Topic Research related to electroporation and aviation
Date **February 21 – March 4, 2024**
Project and Place of mobility Teaching professor at Purdue University, Lafayette, Indiana USA

Topic Electric transmission line faults
Date **January 10 – 26, 2024 and 16-28 May 2024**
Project and Place of mobility Research visit at IPBS-CNR Tolosa France

Topic Research related to Electroporation in medicine with 3D cultures with nanoparticles and FEM simulations in electroporation
Date **24 May 1 June 2023 and 25 July 1 August 2023**
Project and Place of mobility University of Salerno

Topic Research related to electroporation and aviation
Date **March 9 – 22, 2023**
Project and Place of mobility Erasmus teaching Université Paul Sabatier Tolosa

Topic Teaching related to Electroporation in medicine with 3D cultures and FEM simulations in electroporation
Date **February 13 – March 3, 2023**
Project and Place of mobility Visiting researcher at Purdue University, Lafayette, Indiana USA

Topic Electroporation in medicine with 3D cultures and phantom

Date **23-27 May 2023**

Project and Place of mobility Campus Biomedico di Roma Italy

Topic Experiments on 3D cell cultures using co-culture

Date **11 - 22 June 2018**

Project and Place of mobility Campus Biomedico di Roma Italy

Topic Experiments on 3D cell cultures using GFP

Dates **22 January – 22 February 2018**

Project and Place of mobility CNR-IFT Rome Italy

Topic Electroporation on 3D cell cultures using GFP and Propidium

Date **11 November 2018 – 14 November 2018**

Project and Place of mobility Erasmus teaching at Zaragoza University 10 h

Topic Electroporation and electrochemotherapy

Date **20-25 May 2018**

Progetto Teacher at Samara State Technical University, Russia

Argomento PhD and researcher intensive course 20 h: International Seminar for PhD students «Development of optimization procedures based on complex numerical models»

Date **28 Novembre 2017 - 7 Dicembre 2017**

Project and Place of mobility Visiting researcher Invited at Purdue University, Lafayette, Indiana USA

Topic Electroporation in medicine and seminar 'Electrochemotherapy for Effective Cancer Treatment & Control

Dates **9 November 2017 – 15 November 2017**

Project and Place of mobility Erasmus teaching at Zaragoza University 10 h

Topic Electroporation and electrochemotherapy

Dates 17 Ottobre 2017- 2 novembre 2017

Project and Place of mobility Invited at John Hopkins Medicine Baltimore USA

Topic Magnetic fluid hyperthermia

Dates 30 gennaio 2017- 3 Febbraio 2017

Project and Place of mobility Summer-winter school "sustainable and agroecologically-compatible development options in Ethiopian and sub-Saharan rural areas" (Addis Abeba, Ethiopia) – Docente per la parte fotovoltaica

Topic Photovoltaic plant design and Laboratory

Dates May 2016

Project and Place of mobility Short Term Scientific Mission (STSM) in the frame of COST TD1104 – Electroporation presso University of Ljubljana, Faculty of Electrical Engineering
reference code COST-STSM-ECOST-STSM-TD1104-160315-057442

Topic Cell electroporation with new platinum compounds

Scholarship at Padova University

Dates 15 March 2014 - 30 April 2014

Position held Scholarship at Padova University (Prot. N. 767 anno 2014 tit. III Cl. 12 Fasc. 5)

Main activities and responsibilities Data analysis of PV system, Veneto, Emilia Romagna, Friuli Venezia Giulia e Slovenia

Name and address of employer Department of Industrial Engineering Università di Padova, via Gradenigo 6/a Padova, Italy

Dates 01 October 2010 – 31 March 2011

Position held Scholarship at Padova University. STALAM Project: Electromagnetic field use in food defrost

Main activities and responsibilities Design of the systems and tests
Supervisor: prof Michele Forzan

Name and address of employer Department of Industrial Engineering Università di Padova, via Gradenigo 6/a Padova, Italy

Dates 01 April 2010 – 30 September 2010

Position held Scholarship at Padova University SIPA project: Nanoparticles coverage for food containers (Prot. N. 137/10 – III/13.4)

Main activities and responsibilities Design and tests
Supervisor: prof Fabrizio Dughiero, Piergiorgio Sonato

Department of Industrial Engineering Università di Padova, via Gradenigo 6/a Padova, Italy

Project collaboration

Dates 2014 – 2018

Position held Collaboration to the project (Ateneo 2013) about electrochemotherapy (CPDA138001)

Main activities and responsibilities Design of electrodes

Dates 2011 – 2014

Position held Collaboration to the project (Ateneo 2013) about magnetic fluid hyperthermia (CPDA114144)

Main activities and responsibilities Design of measurements set-up and test on nanoparticles

Dates 2010-2011

Position held Collaboration to the project Italghisa (research contract)

Main activities and responsibilities 3D FE analysis and control of a submerged arc electric furnace

Dates 2003-2005

Position held Collaboration to the project ISPESL B/26/DIL/01

Main activities and responsibilities Electromagnetic field at ELF frequencies.

Professional activity at University

Date 2006

Professional activity at Information engineering department (Università degli Studi di Padova) for development and test of the software tool ElfCad (Java language, Object-oriented programming) – 2 months

Name and address of employer Università di Padova

Tipo di attività o settore Research

Tutor at Padova University

Date 30 September 2016 – 29 September 2017

Scientific tutor for FSE Project “Automatic Eat-Hot” cod. 2105-74-2121-2015 COD. CUP: C52C16000050006 in Programma Operativo FSE 2014-2020, Asse Occupabilità, Avviso “Assegni di Ricerca” Delibera della Giunta Regionale della Regione del Veneto n. 2121 del 30/12/2015 e Decreto di approvazione del Direttore di Sezione Istruzione n. 88 del 07/06/2016.

Industry Work experience

Dates December 2014

Occupation or position held Engineering

Main activities and responsibilities Test of a device

Name and address of employer InovaLab s.r.l. (Spin off dell'Università di Padova), Padova

Type of business or sector technical advice

Dates February 2007 – September 2011

Occupation or position held Engineering – full time

Main activities and responsibilities Design of electromagnetic devices, measurements of electromagnetic fields

Name and address of employer Inova s.r.l. (Spin off dell'Università di Padova, ora Inova Lab srl), Via Turazza, 20 Padova

Type of business or sector technical advice

Dates June 2006 - January 2007

Occupation or position held Engineering

Main activities and responsibilities Design of electromagnetic devices

Name and address of employer Inova s.r.l. (Spin off dell'Università di Padova, ora Inova Lab srl), Via Turazza, 20 Padova

Type of business or sector technical advice

Dates September 2002 - June 2003

Occupation or position held stage

Main activities and responsibilities Collaboration in Project Management and databases analysis

Name and address of employer Liebert Hiross di Piove di Sacco (PD), Italy

Type of business or sector industry

Professor habilitation

Validity dates Dal 31/01/2023 al 31/01/2034

Type Full professor (Italy) electrical engineering IIET-01/A ex ING-IND/31

Validity dates From 21/09/2018 to 21/09/2027

Type Associate professor (Italy) electrical engineering IIET-01/A ex ING-IND/31

Engineering habilitation

Dates July2002

Title of qualification awarded Engineering (Italian title)

Education and training

Dates 01 January 2008 – 31 December 2010 Final examination: 25 March 2011

Title of qualification awarded Ph-D **Ingegneria dell'Informazione indirizzo Bioingegneria** SSD : ING/IND-31

Principal subjects/occupational skills covered Title of the thesis: "Biomedical applications of electromagnetic fields: human exposure, hyperthermia and cellular stimulation"
Tutor Prof. Fabrizio Dughiero

Name and type of organisation providing education and training Padova University, Padova, Italy

Dates 2007-2008

Title of qualification awarded Single exams

Principal subjects/occupational skills covered Human anatomy (7 ECT), Physiology (10 ECT), Cell Biology (5ECT) Genetic (3ECT)

Name and type of organisation providing education and training Padova University, Padova,Italy

Dates 01 January 2003 – 31 December 2005 Final examination: 12 Aprile 2006

Title of qualification awarded Ph-D **Bioelettromagnetismo e compatibilità elettromagnetica**

Principal subjects/occupational skills covered Title of the thesis “Analisi di campi magnetici ambientali. Modelli, simulazioni, misure e gestione della prova”, Tutor Prof. Matteo Bertocco

Name and type of organisation providing education and training Padova University, Padova,Italy

Dates 11 March 2002

Title of qualification awarded **Laurea V.O. Ingegneria Elettronica Italian Title (MS)**

Principal subjects/occupational skills covered Title of the thesis “Stima in linea della meccanica respiratoria aspetti metodologici ed applicazione all’asma bronchiale”, supervisor Prof. Claudio Cobelli, co-supervisor Dott. Gianluca Nucci - score 108/110

Name and type of organisation providing education and training Padova University, Padova,Italy

Specific schools

- May 2-5 2025 Erice school, Erice, Italy on electroporation
- 14-19 november 2011’International scientific workshop and postgraduate course “Electroporation based Technologies and Treatments” Lubiana, Slovenia
- 25 May, Hyperthermia course, Aarhus Danimarca
- March 2010 Disegn of Experiment presso TCN,Bergamo
- 20-21 October 2009 software InCa3D (Cedrat), Grenoble, Francia

University teaching

- AA 2024-25 up to now Bioelettromagnetics (5h) for PhD at Industrial Engineering PhD Padova University
- AA 2024-25 up to now Electromagnetic fields and biological tissues (5h) for PhD at Industrial Engineering PhD Padova University
- AA2024-2025 up to now 9 ECTS. ‘sicurezza delle macchine e degli impianti elettromeccanici’ at Insubria university
- AA 2023-2024 now Electromagnetic fields and biological tissues (8h) for PhD at Industrial Engineering PhD Padova University
- AA2022-23 up to now now 1ECTS. ‘Safety in Engineering and technology’, at Pavia university
- AA2020-2021 up to AA2023-2024 9 ECTS. ‘impianti elettromeccanici, formazione e sicurezza’ at Insubria university
- AA 2018-2019, AA2020-2021 up to now 6 ECTS. ‘elettrotecnica, impianti, rischio elettrico’ at Insubria university
- AA 2018-2019, AA2019-2020 6 ECTS. ‘impianti elettromeccanici, formazione e sicurezza’ at Insubria university
- AA 2018-2019, up to, 2023-24 Bioelettromagnetics (8h) for PhD at Industrial Engineering PhD Padova University
- AA 2017-2018 3 ECTS at elettrotecnica per il corso di laurea ingegneria dell’energia presso l’Università di Padova
- AA 2017-2018 (8/6/2018) Seminars at Pavia University for Laboratory of Industrial eletrotechnics
- AA 2017-2018 (1/6/2018) Seminars at Bologna University for (example of PV plant design)
- October 2019 PhD course on Bioelectromagnetics at Industrial Engineering Padova University

- 2018 PhD course on Bioelectromagnetics at Industrial Engineering Padova University
- 28 February 2018 Seminar at PhD at University of Pavia, Italy
- December 2017- February 2018 PhD course on Bioelectromagnetics at Industrial Engineering Padova University
- "PV plant design" with laboratory at the International Summer-Winter School "Sustainable and Agro-Ecologically-Compatible Development Options in Ethiopian and Sub-Saharan Rural Areas", Addis Abeba (Etiopia), 30 January- 3 February 2017.
- 14/06/2017 Seminar at PhD course on 'Oncologia clinica e sperimentale' DISCOG University of Padova/Italy
- AA 2016/2017 Teacher of Photovoltaic Science and Technologies at Padova University 6 ECTS
- AA 2016-2017 (9-10/05/2017) Seminars at Pavia University for Laboratory of Industrial eletrotechnics
- 2016 UIE international school, Leaboratory activities, Padova University, Italy
- AA 2015-2016 (3/05/2016) Seminars at Pavia University for Laboratory of Industrial eletrotechnics
- March - June 2016 24 h (3 ECTS) Electrotechnics exercises for students on Energy Engineering three-year degree – Padova University – Prof F. Dughiero
- 1 December 2015- 30 September 2016 Teacher of Photovoltaic Science and Technologies at Padova University 1 ECTS
- 5 October 2015 - 30 November 2015 Teacher of Photovoltaic Science and Technologies at Padova University 5 ECTS (Rep183/2015 Prot. 3672 Anno 215 Tit III Cl 2 Fasc 9)
- 05-31 March 2014 Teacher at Pavia University, Italy: Laboratory of Industrial eletrotechnics. 3 ECTS of the course: Industrial eletrotechnics (Rep. N. 16/2014 Prot. N. 268 del 13/02/2014 tit. III Cl. 1 Fasc. 3)

Laboratory university training

- April-May 2017 16 h Electrotechnics laboratory for students on Information Engineering three-year degree – Padova University - Prof. P. Alotto and Prof Bettini
- April-May 2017 24 h Electrotechnics laboratory for students on Energy Engineering three-year degree – Padova University - Prof. F. Dughiero and Prof Guarnieri
- April-May 2016 16 h Electrotechnics laboratory for students on Information Engineering three-year degree – Padova University Università degli Studi di Padova- Prof. A. Maschio and prof. M. Guarnieri
- April-May 2016 24 h Electrotechnics laboratory for students on Energy Engineering three-year degree – Padova University -- Prof. F. Dughiero and prof Bettini
- May 2015 8h Electrotechnics laboratory for students on Information Engineering three-year degree – Padova University - Prof. A. Maschio (Rep. N. 59/2015 Prot. N. 1051 anno 2015 tit. III Cl. 2 Fasc. 3)
- May 2015 8h Electrotechnics laboratory for students on Information Engineering three-year degree – Padova University -Prof. M. Guarnieri (Rep. N. 59/2015 Prot. N. 1051 anno 2015 tit. III Cl. 2 Fasc. 3)
- April - May 2015 12 h Electrotechnics laboratory for students on Energy Engineering three-year degree – Padova University - Prof. F. Dughiero (Rep. N. 59/2015 Prot. N. 1051 anno 2015 tit. III Cl. 2 Fasc. 3)
- April - May 2015 12 h Electrotechnics laboratory for students on Energy Engineering three-year degree – Padova University - Prof. F. Bettini (Rep. N. 59/2015 Prot. N. 1051 anno 2015 tit. III Cl. 2 Fasc. 3)
- December 2014 – January 2015: 4 h Laboratory on human exposure to electromagnetic fields for students on Environmental Engineering (Master degree) Padova University – Prof. A. Maschio (Rep. N. 288/2014 Prot. N. 3526 anno 2014 tit. III Cl. 2 Fasc. 15)
- April - May 2014 16 h Electrotechnics laboratory for students on Energy Engineering three-year degree – Padova University - Prof. F. Dughiero (Rep. N. 42/2014 Prot. N. 670 anno 2014 tit. III Cl. 2 Fasc. 4)
- April - May 2014 16 h Electrotechnics laboratory for students on Energy Engineering three-year degree – Padova University - Prof. F. Bettini (Rep. N. 77/2014 Prot. N. 1081 anno 2014 tit. III Cl. 2 Fasc. 4)
- December 2013 2 h Laboratory on human exposure to electromagnetic fields for students on Environmental Engineering (Master degree) Padova University – Prof. A. Maschio

- March - June 2013 25 h Electrotechnics exercises for students on Energy Engineering three-year degree – Padova University - Prof. F. Dughiero (Rep. N. 76/2013 Prot. N. 942 anno 2015 tit. III Cl. 2 Fasc. 2)
- April 2013 – 2 h Electrotechnics laboratory for students on Energy Engineering three-year degree – Padova University - Prof. F. Dughiero – Prof. P. Bettini
- December 2012 2 h Laboratory on human exposure to electromagnetic fields for students on Environmental Engineering (Master degree) Padova University – Prof. A. Maschio
- March –June 2012 29 h Electrotechnics exercises for students on Energy Engineering three-year degree – Padova University - Prof. F.
- April 2012 – 2 h Electrotechnics laboratory for students on Energy Engineering three-year degree – Padova University – Prof. P. Bettini
- Gennaio 2012 4 ore esercitazione su tecniche di valutazione dell'esposizione umana a campi magnetici per gli studenti del corso di elettrotermia dei corsi di laurea magistrale in Ingegneria Elettrica – Università degli Studi di Padova - Prof. F. Dughiero
- December 2011 2h Laboratory on human exposure to electromagnetic fields for students on Environmental Engineering (Master degree) Padova University – Prof. A. Maschio
- June 2011 2h Laboratory on human exposure to electromagnetic fields for students on Environmental Engineering (Master degree) Padova University – Prof. A. Maschio
- May 2010 2h Laboratory on human exposure to electromagnetic fields for students on Environmental Engineering (Master degree) Padova University – Prof. A. Maschio
- March 2010 2 h Electrotechnics laboratory for students on Energy Engineering three-year degree – Padova University - Prof. F. Dughiero
- May 2009 2h Laboratory on human exposure to electromagnetic fields for students on Environmental Engineering (Master degree) Padova University – Prof. A. Maschio
- 2005 Electronic measurement laboratory for automatic and biomedical engineering Padova University – 24 h –Prof. Benetazzo
- 2004 - 2005 Electronic measurement laboratory for automatic and biomedical engineering Padova University – 24 h – Prof. Narduzzi and Prof. Bertocco

Seminars

- May 27-June 5 2025 Paavai college. Seminars for teaching staff (invited) on: Electroporation technology in cancer care, photovoltaic plant design, wireless technology for battery recharge, hyperthermia applications, bioelectromagnetic
- 2020 on line seminar for Virtual “International Conference on Basic and Translational Cancer Research: Novel Ideas and Approaches (ICBTCR-2020)” Organized by Association of Cancer Education and Research (ACER), School of Life Sciences, B.S. Abdur Rahman Crescent Institute of Science & Technology, Chennai, India in association with W. M. Keck Center for Cellular Imaging, University of Virginia, USA & Tamil Nadu State Council for Science & Technology (TNSCST) held during 25-27th June, 2020. Title: “A 3D Model to Study Electric Field Distribution in Homogeneous Tissue”
- 2021 on line seminar, February, 10 2021 (streaming) for TEQIP-III sponsored Two-Week Faculty Development Program on “Advanced and New Generation Materials in Electrical and Electronics Engineering” 8th February to 19th February 2021, Department of Electrical and Electronics Engineering, B.M.S. College of Engineering, Bangalore, in association with M.J.P. Rohilkhand University, Bareilly; ONLINE event

Award

- October 2009 – Student paper Award at Flux Users Conference 2009 (E. Sieni, F. Dughiero, M. Forzan *Evaluation of the exposure to magnetic field generated by welding equipment with reference to induced current density*, Proc. Of Flux Users Conference, 2009)
- May 2010 – Best poster Award at HES Conference 2010 (F. Dughiero, M. Forzan, M. Garbin, C. Pozza, E. Sieni, A 3D numerical fem model for the simulation of induction welding of tubes, Proc. International Symposium on Heating by Electromagnetic Sources, SGEditoriali, Padova, 113-120, May 19-21, 2010)
- May 2011 Kim Young research award at ESHO 2011 (E. Sieni, P. Di Barba, F. Dughiero, Synthesis of magnetic fluid distribution in hyperthermia: numerical tools Proc. ESHO 2011, Abstract book pp. 34, Aarhus Denmark, 2011– oral presentation)
- June 2017 Best Paper Award Nomination at SMACD conference (Giardini Naxos, Italy) for the paper "Electrical resistance in inhomogeneous samples during electroporation

Scientific papers

Data at September 10,2025

Scopus

all

citations 1637

Google scholar

	all	from 2021
citations	2207	991
h-index	27	15
i10-index	66	31

International Journal

In press

1. Marco Barozzi, Praveen Sahu, Elisabetta Sieni, Patrizia Lamberti, Hala M. Abdel Mageed, Ignacio G. Camarillo, V. Tucci, and Raji Sundararajan, Conductivity Uncertainty Impact on the Assessment of Efficacy in Electroporation Experiments, accepted on IEEE Access

2026

2. Pragatheiswar Giri, Ignacio Camarillo, Elisabetta Sieni, Raji Sundararajan, High Intensity Microsecond-Electric Pulses Modulate Cell Death in MDA-MB-231 Cells Treated with Resveratrol, Cell Biochem Biophys, 2026 Apr 17, doi: 10.1007/s12013-026-02075-3

2025

3. Michele Forzan, Paolo Di Barba, Maria Evelina Mognaschi, Muriel Golzio, Marie-Pierre Rols, Jelena Kolosnjaj-Tabi, Elisabetta Sieni, Numerical evaluation of transmembrane potential in cell aggregates in presence of lipid droplets, International Journal of Applied Electromagnetics and Mechanics, 2005
4. Marino R, Sieni E (co-first); Dettin M; A. Zamuner; Nico Martarelli, Vincenzo M. Perriello, Fazio VM, Marra A, Cioce M, Signori E and De Robertis M, Electroporation of 3D-cultured breast cancer cells elicits T lymphocyte-mediated killing, Bioelectricity, Vol. 7, No. 4, 2025 <https://doi.org/10.1177/25763113251380149>
5. Khan M.H., Lamberti P., Sieni E., Tucci V. On-Ground Photovoltaic Plants Designed to Recharge Aircraft Batteries (2025) Energies, 18 (24), art. no. 6473
6. Ghafoorinejad A., Di Barba P., Dughiero F., Forzan M., Mognaschi M.E., Sieni E. A Cascade Deep Learning Approach for Design and Control Optimization of a Dual-Frequency Induction Heating Device (2025) Energies, 18 (24), art. no. 6598
7. Modestino M., Galluzzi A., Barozzi M., Copelli S., Daniele F., Russo E., Sieni E., Sgarbossa P., Lamberti P., Polichetti M. The Effect of Copper Adsorption on Iron Oxide Magnetic Nanoparticles Embedded in a Sodium Alginate Bead (2025) Nanomaterials, 15 (15), art. no. 1196,
8. Rachid Zegait, Saber Kouadri, Maamar Chelgham Luka Vucinic, Fatima Ajja, Elisabetta Sieni, Muhammad Rasool Al-Kilani, AI-based prediction of total dissolved solids in reverse osmosis desalination for arid regions, Desalination and Water Treatment 323 (2025) 101411,
9. Modestino, M.; Galluzzi, A.; Barozzi, M.; Copelli, S.; Daniele, F.; Russo, E.; Sieni, E.; Sgarbossa, P.; Lamberti, P.; Polichetti, M. The Effect of Copper Adsorption on Iron Oxide Magnetic Nanoparticles Embedded in a Sodium Alginate Bead. *Nanomaterials* **2025**, *15*, 1196. <https://doi.org/10.3390/nano15151196>
10. Sahu, P.; Barozzi, M.; Di Barba, P.; Mognaschi, M.E.; La Mura, M.; Lamberti, P.; Forzan, M.; Conconi, M.T.; Camarillo, I.; Sundararajan, R.; et al. Round Well Inset for Uniform Electric Field Distribution in Electroporation Applications. *Bioengineering* **2025**, *12*, 203. <https://doi.org/10.3390/bioengineering12020203>
11. Di Barba, P.; Ghafoorinejad, A.; Mognaschi, M.E.; Dughiero, F.; Forzan, M.; Sieni, E. Optimal Multi-Physics Synthesis of a Dual-Frequency Power Inductor Using Deep Neural Networks and Gaussian Process Regression. *Algorithms* **2025**, *18*, 10. <https://doi.org/10.3390/a18010010>

2024

12. Sahu, P., Camarillo, I.G., Dettin, M., Zamuner, A., Teresa Conconi, M., Barozzi, M., Giri, P., Sundararajan, R., Sieni, E., Electroporation enhances cell death in 3D scaffold-based MDA-MB-231 cells treated with metformin, (2024) Bioelectrochemistry, 159, art. no. 108734, DOI: 10.1016/j.bioelechem.2024.108734
13. Ferrari, M.L., Gini, L., Di Barba, P., Mognaschi, M.E., Sieni, E., Multi-objective optimization of a polygeneration grid including thermal energy storage system, (2024) Journal of Energy Storage, 97, art. no. 112963, DOI: 10.1016/j.est.2024.112963
14. Ferretti, L., Moccia, V., Centelleghes, C., Venerando, A., Dettin, M., Sieni, E., Zamuner, A., Caicci, F., Castagnaro, M., Zappulli, V., Mazzariol, S., Bottlenose dolphin (*Tursiops truncatus*) immortalized fibroblasts on novel 3D in vitro collagen-free scaffolds, (2024) PLoS ONE, 19 (6 June), art. no. e0304992, DOI: 10.1371/journal.pone.0304992

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Patents

1. F. Dughiero, E. Sieni, C. R. Rossi, L. G. Campana, "Applicatore per elettroporazione", patent number VR2013A000184 on 01/08/2013. Patented on 2015
2. E. Sieni, F. Dughiero, P. Bariani, L. Biasiolo, L. G. Campana, "Interfaccia per elettrochemioterapia", IT Patent No. 102017000102644 del 13/09/2017 concessione 26/11/2019
3. F. Dughiero, E. Sieni, P. Bariani, L. Biasiolo, L. G. Campana, "Applicator and Apparatus for electroporation", PCT application WO2019/053600, N.PCT/IB2018/056952, 12/09/2018
4. M. Dettin, A. Zamuner, E. Sieni, F. Dughiero, "Modelli in vitro per l'elettroporazione", patent number 102018000007589, 27.07.20
5. M. Dettin, A. Zamuner, E. Sieni, F. Dughiero, "IN VITRO MODELS FOR ELECTROPORATION", application for PCT PCT/EP2019/070209 27 07.2017 concessione 26 07.2019

Invited speaker

- May 28, 2025 International Conference on Adaptive Technologies for Sustainable Growth (ICATS-2025) 10th Edition Paavai Engineering College(Autonomous), Pachal, Namakkal – 637018, Tamilnadu, India- invited talk
- October 1, 2024 invited talk 'photovoltaic generation from the cell to the module 'at tutorial session in APROPOS 19, Vilnius, Lituania
- September 26 2024 invited talk (Colture cellulari in scaffold 3D per la sperimentazione in vitro) at Corso teorico "Animali utilizzati a fini scientifici: aspetti normativi, etici e procedurali, **Università degli Studi dell'Insubria**, Varese Italia
- 11-12 June 2021. Invited speech at 2nd Virtual International Conference on Naturopathy, Nanotechnology, Nutraceuticals and Immunotherapy Cancer Research- 2021, Chennai, India (on line event). **3D scaffolds to mimic extra-cellular matrix: evaluation of the cell electroporation**
- 10 February 2021 invited speaker at the TEQIP-III sponsored Two-Week Faculty Development Program on "Advanced and New Generation Materials in Electrical and Electronics Engineering", 8th-19th February 2021, Department of Electrical and Electronics Engineering, B.M.S. College of Engineering, Bangalore, India, ONLINE event Title '**Materials for photovoltaic conversion: from Silicon to new materials**'
- 25-27 June 2020. Invited speech as the Resource person in Virtual "International Conference on Basic and Translational Cancer Research: Novel Ideas and Approaches (ICBTCR-2020)" Organized by Association of Cancer Education and Research (ACER), School of Life Sciences, B.S. Abdur Rahman Crescent Institute of Science & Technology, Chennai, India Titolo: **A 3D model to study electric field distribution in inhomogeneous tissue**
- 17 October 2019 special session NANOMEDICINE AND NANOTHERAPEUTICS SESSION at Nanoscience and Nanotechnology annual meeting Oct 15th – 18th 2019 (Invited presentation) Titolo: **Novel 3D hyaluronic acid-based breast cancer *in vitro* model as tool for transfection tests**
- 19-21 May 2015 Coupled Problems, San Servolo Venezia, Italy

Conference attendance with oral presentation

- 14-16 June 2021 ESA conference, 2021 Annual Meeting of the Electrostatics Society of America, USA (on line event)
- 17 October 2019 special session NANOMEDICINE AND NANOTHERAPEUTICS SESSION at Nanoscience and Nanotechnology annual meeting Oct 15th – 18th 2019 (Invited presentation)
- 2-6 September 2019 3rd World Congress on Electroporation, Tolosa, Francia
- 29-31 August ISEF 2019, Nancy, Francia (chair of a poster session)
- 28-30 November 2018, Icomb 28-30, Salerno Italy
- 21-23 October 2018 IECON Washington DC USA
- 24-28 September 2017 2th World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine and Food & Environmental Technologies. Norfolk,VI,USA
- 12-15 June 2017 14th International Conference on Synthesis, Modeling, Analysis and Simulation Methods and Applications to Circuit Design (**SMACD 2017**), Giardini Naxos, Italy
- 13-15 September 2016 14th International Workshop on Optimization and Inverse Problems in Electromagnetism. Roma Italy,
- 19-21 May 2015 Coupled Problems, San Servolo Venezia, Italy
- 7-11 September MBEC 2014, Dubrovnik, Croatia – 1 poster e 1 orale
- 20-21 June 2013 ET2013 Riunione Annuale dei Ricercatori di Elettrotecnica, Padova, Italy
- 16-19 September 2012 Congresso IGTE, Graz Austria – 1 paper
- 14-19 November 2011 partecipazione all'International scientific workshop and postgraduate course "Electroporation based Technologies and Treatments" Lubiana, Slovenia – presentazione orale durante il corso
- 25 maggio, Hyperthermia course, Aarhus Danimarca – 1 abstract – presentazione orale
- 26-28 Maggio, ESHO 2011, European Society For Hyperthermic Oncology, Aarhus Danimarca
- 19-21 Maggio 2010 HES Heating by Electromagnetic source Conference, Padova, Italia – 1 presentazione orale
- 10-12 Settembre 2009 ISEF, International Symposium on Electromagnetic Fields in Mechatronics, Electrical and Electronic Engineering, Arras, Francia
- 4-6 Giugno 2009 Esho - European Society For Hyperthermic Oncology, Verona Italia con presentazione orale

- 22-24 febbraio 2005 Congresso Metrologia&Qualità, Torino - con presentazione lavoro "Riferibilità della strumentazione in un laboratorio di prove di compatibilità elettromagnetica" – 1 paper
- 5-7 settembre 2005 Congresso GMEE (Gruppo Misure Elettriche ed Elettroniche), Palermo - con presentazione lavoro "Verifica di taratura tramite classificazione" – presentazione orale su invito
- 13-15 settembre 2004 IGTE Symposium, Seggau, Graz - con presentazione lavoro "An Analysis Tool for the Evaluation of Magnetic Field in Buildings"- 1 paper

Conference attendance

- 22-26 June 2025 COMPUMAG, Naples, Italy
- 15-19 September 2024 5th World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine, and Food & Environmental Technologies (WC2024) Roma, Italy
- 11-13 February 2024 1st International Conference on Circularity, Sustainability and Resilience in Water, Wastewater and Sludge Management - CSRW24 Varese, Italy
- 22-25 October 2023, Nanotechnology Materials and Devices Conference, Paestum (Salerno), Italy (1 day)
- 12-15 September 2023 21st International Symposium on Electromagnetic Fields in Mechatronics, Electrical and Electronic Engineering, Pavia Italy
- 17-20 September 2023 17th International Workshop on Optimization and Inverse Problems in Electromagnetism 2023
- 5-8 September 2023 13th EASN International Conference on "Innovation in Aviation & Space for opening New Horizons", Salerno Italy
- 9-13 October 2022 4th World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine, and Food & Environmental Technologies (WC2024) Copenhagen, Denmark
- 14-16 June 2021 ESA conference, 2021 Annual Meeting of the Electrostatics Society of America, USA (on line event)
- 17 October 2019 special session NANOMEDICINE AND NANOTHERAPEUTICS SESSION at Nanoscience and Nanotechnology annual meeting Oct 15th – 18th 2019 (Invited presentation)
- 2-6 September 2019 3rd World Congress on Electroporation, Tolosa, Francia
- 29-31 August ISEF 2019, Nancy, Francia (chair of a poster session)
- 15-19 July 2019 COMPUMAG, Parigi, Francia
- 22-24 Maggio 2019, HES, Padova, Italia
- 11-13 September 2018 OIPE Hall in Tirolo, Austria
- 24-27 May 2016 HES-16 Conference Heating by Electromagnetic source Conference, Padova Italy
- 6-10 September 2015 1st World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine and Food & Environmental Technologies, Portoroz Slovenia
- 11-14 June 2014 ESHO 2014, Torino Italy – 4 poster
- 25 - 28 May 2014 CEFC 2014, Annecy France – 2 poster
- 30 June - 4 July 2013 Congresso COMPUMAG 2013, Budapest (Hungary) – 1 poster
- 21-24 Maggio 2013 Congresso HES Heating by Electromagnetic sources, Padova, Italia – 3 poster
- 11-14 November 2012 Congresso CEFC 2012, Oita (Giappone) – 2 poster
- 21-22 June 2012: 28a Riunione Annuale dei Ricercatori di Elettrotecnica, Taormina, Italy – 1 poster
- 23-24 November 2011 NanotechItaly 2011 Mestre-Venice, Italy – 1 poster
- 16-17 June 2011: 27a Riunione Annuale dei Ricercatori di Elettrotecnica, Bologna, Italy – 1 poster
- 19-21 May 2010 HES Heating by Electromagnetic source Conference, Padova, Italia – 3 poster
- 21-23 October 2009 Flux Users Conference, Autrans, Francia (Student paper Award) – 1 poster
- 26-29 May 2009 EMF, 8th International Symposium on Electric and Magnetic Fields Mondovì, Italia – 1 poster
- 16-18 September 2004 Congresso GMEE (Gruppo Misure Elettriche ed Elettroniche), Crema
- October 2007 Flux Users Conference, Lione, Francia
- October 2006 Flux Users Conference, Padova, Italia
- June 2007 HES , Padova, Italia

Reviewer

- In the list of international reviewers for Department of Research Projects Slovenian Research and Innovation Agency, Slovenia
- International reviewer for Czech Science Foundation, Czech Republic
- Panel expert and international review for NATIONAL SCIENCE CENTRE, Poland
- Transaction on Magnetic IEEE (COMPUMAG and CEFC related)
- Transaction on Biomedical Engineering IEEE

- International Journal of Hyperthermia
- Proceeding HES 2013 per Int J Applied Electromagnetic and Mechanics
- COMPEL
- Evaluator: review grant proposal for the National Science Center, National Science Center/ Poland
- Technology Cancer Research and Treatment
- COMPUMAG (editorial board), CEFC and IECON conference
- MDPI journals
- Elsevier journals

Event organization/scientific committee

- Local member organization ISEF 2023 (Pavia, Italy)
- LOC participation for 5th World Congress on Electroporation and Pulsed Electric Fields in Biology, Medicine, and Food & Environmental Technologies (WC2024) Roma, Italy
- Convegno divulgativo 'La gestione del rischio fulmini' Università dell'Insubria Varese
- Scientific committee of FEx23, 1st INTERNATIONAL CONFERENCE ON FIRES & EXPLOSIONS IN THE PROCESS INDUSTRY 8-11 October 2023 Bologna, Italy
- Local secretary of the conference ET 2013 Padova, Italy
- Local secretary of the conference HES16, and HES19 Padova, Italy
- Special session organizer at IECON 2018 conference

Co-editor and guest editor

- 2024-now Editorial Advisory Board of member of COMPEL-THE INTERNATIONAL JOURNAL FOR COMPUTATION AND MATHEMATICS IN ELECTRICAL AND ELECTRONIC ENGINEERING ISSN 0332-1649
- 2022-now Editor-in-Chief of the Section "Bioengineering Design" in Designs MDPI ISSN 2411-9660
- 2020-2022 Editorial board of Designs MDPI ISSN 2411-9660
- 2023-24 special issue Post ISEF2023 COMPEL-THE INTERNATIONAL JOURNAL FOR COMPUTATION AND MATHEMATICS IN ELECTRICAL AND ELECTRONIC ENGINEERING ISSN 0332-1649
- 2019 special issue Post HES19 INTERNATIONAL JOURNAL OF APPLIED ELECTROMAGNETICS AND MECHANICS ISSN 1383-5416
- 2016 special issue Post HES16 INTERNATIONAL JOURNAL OF APPLIED ELECTROMAGNETICS AND MECHANICS ISSN 1383-5416
- 2016 special issue Post HES16 COMPEL-THE INTERNATIONAL JOURNAL FOR COMPUTATION AND MATHEMATICS IN ELECTRICAL AND ELECTRONIC ENGINEERING ISSN 0332-1649

International Agreement

- India Paavai Engineering College(Autonomous), Pachal, Namakkal – 637018, Tamilnadul, India
- Algeria: Mohamed Cherif Messaadia University Souk Ahras – Algeria
- Algeria: Kasdi Merbah University ,Ouargla, Algeria
- Bulgaria: Medical University of Plovdiv – Bulgaria
- USA: Purdue University - School of Engineering Technology, West Lafayette, Indiana, USA
- Erasmus agreement with Université de Toulouse, Université de Tour, University of Zaragoza

Main collaborations

- Università di Padova Dipartimento di Ingegneria Industriale e Dipartimento di scienze del farmaco, Padova, Italy
- Università di Pavia Dipartimento di Ingegneria Industriale e dell'Informazione, Pavia, Italy
- University of Salerno, Dept. of Information and Electrical Engineering and Applied Mathematics
- Purdue University, Indiana, USA
- Università Campus Biomedico, Roma, Italy
- CNR-IFT Roma, Italy
- CNR IPBS Tolosa, France

Tutor and Co-tutor of degree thesis

1. >40 three-year degree thesis
2. >22 Master degree thesis
3. 1 co-tutor PhD thesis

Indicatori bibliometrici Feb 2026

Indicatore	Valore	Soglia (associato/ordinario/commissario)
Numero articoli ultimi 10 anni	82	8/ 21/ 25
Numero citazioni ultimi 15 anni	1602	171/370/640
H index ultimi 15 anni	21	6 / 11/ 14

Mother tongue(s) **Italiano**

	Understanding		Speaking		Writing
English	B2	B2	B2	B2	B2
French	C1	C1	C1	C1	C1
Espagnol	A1	A1	A1	A1	A1

Computer skills and competences

- Excel, Word, Power Point, Access, Latex
- Flux2D-3D, Matlab, Labview, R, Cadence, Spice, VHDL, Octave
- Python, Java, C++, Pascal, HTML,

Dati personali Autorizzo il trattamento dei miei dati personali ai sensi del Decreto Legislativo 30 giugno 2003, n. 196 "Codice in materia di protezione dei dati personali".

Data, 11/05/2026