



Europass Curriculum Vitae

Personal information

First name and Surname Ilaria Marotta

Telephone

Cellulare/Mobile:

Nationality Ita

Date of birth

Work experience

Date 06/07/23-Present

Occupation or position held Researcher-Scientific Collaborator

Main activities and responsibilities Scientific collaboration in the EU project EXCESS - FleXible user-CENtric Energy poSitive houseS

Name and address of employer JOANNEUM RESEARCH Forschungsgesellschaft mbH. Institute LIFE – Research Group
International Climate Policy and Economics, Graz, Austria

Date 01/11/19-04/07/23

Occupation or position held Ph.D. student

Main activities and responsibilities Ph.D in Energy. PhD in “Energia e Tecnologie dell'Informazione”, curriculum: “Fisica tecnica e Ingegneria nucleare”, sector: “Fisica tecnica ambientale - ING-IND/11”. Topics: energy flexibility, energy flexible buildings, Positive Energy Districts (PEDs), Net Zero Energy Buildings (NZEB), innovative energy solutions, Life Cycle Assessment (LCA)

Name and address of employer University of Palermo, Palermo, Italy

Date 20/01/22-06/11/22

Occupation or position held Visiting Researcher

Main activities and responsibilities Development of energy retrofit strategies for an existing building district based on energy flexibility in order to achieve the target of Positive Energy District (PED)

Name and address of employer Catalonia Energy Research Institute-IREC, Barcelona, Spain
Supervisor: Dr. Jaume Salom

Date June 2020/Present

Occupation or position held Participant, as an Italian member from the University of Palermo, in the working group of the IEA EBC Annex 83 "Positive Energy Districts (PED)" of the International Energy Agency

Main activities and responsibilities Research on PEDs and in relation to energy flexibility and sustainability strategies of urban agglomerations; collaboration in the production of scientific articles and reports; participation in international meetings of the Annex and development of research ideas

Name and address of employer International Energy Agency (IEA)

Date	April 2021/Present
Occupation or position held	Peer reviewer
Main activities and responsibilities	Peer review of scientific articles
Name and address of employer	Journal of Building Engineering (Elsevier), Sustainability, Energies, Buildings, Smart Cities, Applied Sciences (MDPI)
Date	01/02/21-31/12/21
Occupation or position held	Scientific collaborator
Main activities and responsibilities	Participation in the research activity developed within the framework of the collaboration agreement between ENEA, the RSE and the Engineering Department of the University of Palermo, concerning "Analysis of the energy impacts and greenhouse gas emissions of technologies and components for the energy efficiency of buildings from a life cycle perspective" - Scientific director Prof. Maurizio Cellura (07/08/2020 - 31/12/2021).
Name and address of employer	Collaboration in the development of the net zero energy building model in the TRNSYS environment and in the subsequent analysis of the results of the energy simulation; collaboration in the inventory phase of the Life cycle assessment (LCA) by collecting data from the building-plant system. University of Palermo-ENEA-RSE Agreement
Date	01/07/19-31/07/19
Occupation or position held	Internship. Evaluation: Excellent.
Main activities and responsibilities	Development of simplified algorithms for calculating the annual energy savings achieved as a result of energy efficiency measures in buildings, deductible through the Italian "Ecobonus". Evaluation of the possible deductibility of a solar shading intervention carried out by applying solar films.
Name and address of employer	ENEA
Date	01/08/16-31/08/16
Occupation or position held	Internship. Evaluation: Excellent.
Main activities and responsibilities	Management of practices relating to the installation of systems powered by renewable energy sources
Name and address of employer	Department of Urban Planning and Public Works, Municipality of Licata (AG)
Teaching activity	
Date	01/03/21-09/06/21
Occupation or position held	Assistant Professor.
Main activities and responsibilities	Didactic collaboration in the course "Energy certification and environmental brands" of the degree course in Environmental Engineering of the University of Palermo for carrying out 20 hours of lessons.
Name and address of employer	University of Palermo
Date	December 2021
Occupation or position held	Assistant Professor.
Main activities and responsibilities	Didactic collaboration in the course "Building physics" of the master's degree course in Energy and Nuclear Engineering of the University of Palermo for 4 hours of lessons.
Name and address of employer	University of Palermo
Date	December 2020

Occupation or position held	Assistant Professor.
Main activities and responsibilities	Didactic collaboration in the course "Building physics" of the master's degree course in Energy and Nuclear Engineering of the University of Palermo for 4 hours of lessons.
Name and address of employer	University di Palermo
Date	April 2020
Occupation or position held	Collaborator
Main activities and responsibilities	Didactic collaboration in the course "Ecodesign of systems and processes" of the degree course in Engineering and innovative technologies for the environment of the University of Palermo
Name and address of employer	University di Palermo
Occupation or position held	Collaborator
Main activities and responsibilities	Didactic collaboration in the course "Energy certification and environmental brands" of the degree course in Environmental Engineering of the University of Palermo. Topic: Energy certification of buildings (LEED, BREEAM, ITACA, etc.)
Name and address of employer	University di Palermo

Honors and awards

Date	22/07/22
Scientific event	XVIII Iberian Congress and XIV Ibero-American Congress of Solar Energy - International Congress CIES 2022
Award	Winner of the Best paper award, with the article entitled: "Hacia distritos de energía positiva: rediseño de un distrito mediterráneo mediante la integración de tecnologías solares y la activación de la flexibilidad energética" (Towards positive energy districts: redesign of a mediterranean district through the integration of solar technologies and the activation of energy flexibility)

Events and conferences

Date	27/10/22
Scientific event	Participation in the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83 "Subtask B internal meeting"
Date	24/10/22
Scientific event	Participation in the workshop "Energy system modelling framework workshop" organized by Subtask B of the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83
Date	14/09/22-16/09/22
Scientific event	Participation in the International Energy Agency Energy in Buildings and Communities (IEA EBC) "Annex 83-Positive Energy Districts working meeting"
Date	25/08/22
Scientific event	Participation in the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83 "Subtask B internal meeting"
Date	28/04/22-29/04/22
Scientific event	Participation in the International Energy Agency Energy in Buildings and Communities (IEA EBC) "Annex 83-Positive Energy Districts working meeting"

Date	21/03/22
Scientific event	Participation in the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83 "Subtask B internal meeting"
Date	28/10/21
Scientific event	Participation in the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83 "Subtask B internal meeting"
Date	22/10/21
Scientific event	Participation in the workshop "Positive Energy Districts performance assessment: methodologies, key performance indicators and future outlooks" organized by the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83
Date	23/09/21-24/09/21
Scientific event	Participation in the International Energy Agency Energy in Buildings and Communities (IEA EBC) "Annex 83-Positive Energy Districts working meeting" and speaker during the session: "PhD talk" held on 24/09/21
Date	25/08/21
Scientific event	Participation in the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83 "Subtask B internal meeting"
Date	30/06/21
Scientific event	Participation in the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83 "Subtask C internal meeting"
Date	22/04/21
Scientific event	Participation in the "Workshop on PED Definition" organized by the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83
Date	21/04/21-22/04/21
Scientific event	Participation in the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83 "Working meeting", and speaker during the session: "PhD talk" held on 22/04/21
Date	10/03/2021-11/03/2021
Scientific event	Participation in the international conference organized by the Chartered Institution of Building Services Engineers (CIBSE) "CIBSE UAE Net Zero Conference"
Date	25/03/21
Scientific event	Participation in the "Workshop on data modeling and data harmonization for energy systems in PEDs", organized by Subtask B of the International Energy Agency Energy in Buildings and Communities (IEA EBC) Programme Annex 83
Date	20/07/22-22/07/22
Scientific event	Participation as an author in the XVIII Iberian Congress and XIV Ibero-American Congress of Solar Energy - International Congress CIES 2022
Date	05/11/20
Scientific event	Participation in the IBPSA-USA Education Committee "Municipal Scale Energy and Carbon Reduction Strategy Modeling", organized by the International Building Performance Simulation Association (IBPSA-USA).
Date	01/10/20-02/10/20
Scientific event	Participation in the workshop dell'Annex 83-Positive Energy Districts 2 nd Preparation Phase Planning Workshop Agenda for 1 st and 2 nd of October 2020
Date	15/09/20-16/09/20
Scientific event	Participation and speaker in the 75° ATI National Congress (2020) #7 CLEAN ENERGY FOR ALL: Ricerca, Innovazione e Sviluppo per l'industria ed il territorio; Italian thermotechnical association (ATI)

Education and training

Date	01/11/2019-04/07/2023, Final exam: 04/07/2023
Title of qualification awarded	Doctor of Philosophy Ph.D. PhD in Energy, "Energia e Tecnologie dell'Informazione", curriculum: "Fisica tecnica e Ingegneria nucleare", sector: "Fisica tecnica ambientale - ING-IND/11", University of Palermo, Palermo, Italy
Name and type of organisation providing education and training	
Informations	Topics: energy flexibility, energy flexible buildings, Positive Energy Districts (PEDs), Net Zero Energy Buildings (NZEB), innovative energy solutions, Life Cycle Assessment (LCA). Ph.D thesis: Positive Energy Districts: conceptualization and development of a redesign framework oriented towards energy flexibility and sustainability in the Mediterranean area
Date	July 2022
Title of qualification awarded	Visiting international student. Participation in the summer school on Positive Energy Districts organized by the International Energy Agency Energy in Buildings and Communities (IEA EBC) Annex 83
Name and type of organisation providing education and training	Concordia University, Montreal, Canada
Informations	Positive Energy Districts: Towards a holistic approach to modeling and performance assessment
Date	2017-2019. Final exam: 17/10/2019
Title of qualification awarded	Master's Degree in Energy and Nuclear Engineering, LM 30, 110/110 cum laude
Name and type of organisation providing education and training	Master's Degree Course in Energy and Nuclear Engineering, University of Palermo, Palermo, Italy
Informations	Thesis: "Energy Flexible Buildings: design solutions and applications to a case study"; supervisor: Prof. Maurizio Cellura, co-supervisor: Prof. Francesco Guarino. Subjects: electricity generation and transmission systems, building physics, LCA of energy systems, solar energy systems, hydrogen and fuel cell technology, energy and environmental assessment and certification, sound and light engineering, analysis and thermoeconomics of energy systems, energy plant design, cold technology, lighting systems, numerical thermofluid dynamics, advanced nuclear plants, thermotechnics, technical systems, electric and hybrid propulsion systems
Date	2012-2017. Final exam: 09/03/2017
Title of qualification awarded	Doctor in Energy Engineering, 106/110
Name and type of organisation providing education and training	Degree Course in Energy Engineering, University of Palermo, Palermo, Italy
Informations	Thesis: "Use of heat engines and heat pumps in Pinch Analysis "; supervisor: Prof. Antonio Piacentino.
Date	2006-2011
Title of qualification awarded	Scientific high school diploma, 100/100
Name and type of organisation providing education and training	"Vincenzo Linares" Scientific High School, Licata (AG), Italy

Training courses

*Some of the webinars and courses

Date	September 2022, Duration: 9.5 hours
Training course	"Coding in R for Data Analysis: From Beginner to Expert", online course offered by Udemy
Date	08/03/22
Training course	"Evaluating operational energy performance of buildings (TM54) launch event", webinar organized by the Chartered Institution of Building Services Engineers (CIBSE)
Date	01/21/21
Training course	"Low and Zero Carbon Heat Networks: can it be done?", webinar organized by the Chartered Institution of Building Services Engineers (CIBSE)
Date	09/12/21
Training course	"CIBSE TM65.1 – Embodied carbon of residential heating" webinar organized by the Chartered Institution of Building Services Engineers (CIBSE)
Date	10/12/21
Training course	"Low-Carbon and Positive Energy Resilient Communities": webinar organized by Concordia's Center for Zero Energy Building Studies (CZEBS) and the Canadian Academy of Engineering (CAE) on Low-Carbon and Positive Energy Resilient Communities as part of the CAE Roadmap to Resilient Ultra -Low Energy Built Environment with Deep Integration of Renewables in 2050. The webinar was supported by IEA Annex 83 (Prof. Ursula Eicker, Annex 83 Subtask B leader) and IEA Task 63 (Prof. Caroline Hachem-Vermette, IEA Task 63 Subtask leader), with the participation of Dr. Andreas Athienitis (FCAE, Roadmap Co-Chair, Professor and NSERC/Hydro-Québec Industrial Research Chair & Concordia Chair, Concordia University)
Date	06/29/21
Training course	CIB Smart City TG88 Webinar, webinar organized within the Positive Energy Districts. Speakers: Miimu Airaksinen, CIB TG88, CEO, RIL; Dr. Francesco Reda, SPARCS coordinator, VTT, Finland; Prof. Derek Clements-Croome, Reading University, UK; Prof Geoffrey Shen, Chair and Assoc. Dean, The Hong Kong Polytechnic University
Date	6/14/21
Training course	Advanced training course "Sustainable development goals and university education - New strategies for governing complexity". Speakers: Prof. Federico Butera, Milan Polytechnic, Italy; Giorgio Beccali, Maurizio Cellura, Maurizio Carta, University of Palermo, Italy.
Date	07/23/20
Training course	Webinar AiCARR-Italian Association of Air Conditioning, Heating and Refrigeration "Indoor and outdoor air quality: modern design and construction criteria": indoor air quality in confined spaces under normal operating conditions and adaptation of design and management measures to contain COVID 19.
Date	07/20/20-07/24/20
Training course	School of Scientific Computing with MATLAB 2020-Basic Course (28 hours). Topics covered: Introduction to MATLAB, variables, vectors & matrices; scripts; introduction to programming; debugging, structs and cell arrays; file management, 2D and 3D graphics and animations.
Date	07/27/20-07/31/20
Training course	School of Scientific Computing with MATLAB 2020-Advanced Course (28 hours). Topics covered: fundamental concepts of parallel computing and parallel programming in MATLAB environment; machine Learning with applications to Image Analysis and Speech Recognition; big Data Analytics with application to the analysis of databases taken from real contexts.
Date	02/17/20
Training course	Advanced training course "Smart retrofit of existing buildings". Speakers: Prof. Federico Butera, Niccolò Aste, Claudio Del Pero, Fabrizio Leonforte, Milan Polytechnic, Italy; Dr. Michela Buzzetti, CEO-ZH Srl.
Date	03/02/20
Training course	Advanced training course "To decarbonize by mid-century roadmap to 2050". Speaker: Paolo Carnevale, executive director of the Eni Enrico Mattei Foundation (FEEM).
Date	11/29/19
Training course	

Advanced training course "Sustainability Assessment of the New Residential Buildings". Speakers: Prof. Francesco Guarino, Dr. Maria Anna Cusenza, University of Palermo, Italy; Prof. Laura Tupenaite, Vilnius, Gediminas Thecnical University (VGTU) of Lithuania.

Personal skills and competences

Mother tongue(s)

Italian

Other language(s)

English (C1)

Self-assessment

European level (*)

English

Comprensione / Understanding		Parlato / Speaking		Scritto /Writing
Listening	Reading	Spoken interaction	Spoken production	
C1	C1	C1	B2	C1

(*) [Common European Framework of Reference for Languages](#)

Spanish (B1)

Catalan (B1)

Social skills and competences

Good relational and teamwork skills, empathic personality.

Organisational skills and competences

Proactive attitude oriented towards precision and the development of new ideas. Good ability to plan work and organize time and resources.

Technical skills and competences

Energy modeling and simulation of buildings and systems in dynamic regime, management of complex systems such as neighborhoods/districts with net zero and positive energy, ability to research innovative technical solutions for energy management such as the implementation of strategies of energy flexibility for buildings oriented towards the energy flexible buildings target, bioclimatic design of buildings, thermo-fluid dynamics and finite element analysis, lighting design of internal and external environments, mechanical checks for street lighting, analysis of systems and processes with a view to life cycle through the Life Cycle Assessment (LCA) methodology, thermo-economic analysis of energy production systems, pinch analysis, optimization of industrial plants (e.g. thermoelectric power plants, desalination plants), acoustic design of environments, energy certification of buildings, design d heat exchangers and other industrial components.

Computer skills and competences

Microsoft office, Autocad, TRNSYS, Energy Plus, Google ScketchUp, Dialux-Dialux EVO, ANSYS, EES, Open LCA, Python, R (base knowledge)

Other skills and competences

Good motivational and reasoning skills

Additional information

Cultural activities and associations

- Member of the organizing committee of the IEA EBC Annex 83 6th Working Meeting, held in Palermo, Italy, on April 12-14, 2023.
- Member of the university associations "Vivere Ingegneria" and "Vivere Ateneo", University of Palermo, Palermo, Italy. Participation in all the activities of the associations and in particular in the sub-activity "Organization of seminars and training activities for university engineering students", (2012-2016).

Scientific publications

- I. Marotta, F. Guarino, M. Cellura, S. Longo, Energy flexibility in Mediterranean buildings: a case-study in Sicily, E3S Web Conf. 197 02002 (2020), DOI: 10.1051/e3sconf/202019702002.
- II. Marotta, I., Guarino, F., Cellura, M., Longo, S. Investigation of design strategies and quantification of energy flexibility in buildings: A case-study in southern Italy, (2021), Journal of Building Engineering, <https://doi.org/10.1016/J.JOBE.2021.102392>
- III. Longo, S., Cellura, M., Cusenza, M.A., Guarino, F., Marotta, I. Selecting insulating materials for building envelope: A life cycle approach. (2021), TECNICA ITALIANA-Italian Journal of Engineering Science, Vol. 65, No. 2-4, pp. 312-316. <https://doi.org/10.18280/ti-ijes.652-426>
- IV. Longo, S.S., Cellura, M., Cusenza, M.A., Guarino, F., Marotta, I. Mistretta M., Materiali isolanti per l'edilizia: uno studio di LCA. (2021), In Atti del XV Convegno della Rete Italiana LCA – X Convegno dell'Associazione Rete Italiana LCA – Innovazione e circolarità. Il contributo del Life Cycle Thinking nel Green Deal per la neutralità climatica (pp. 183-190).
- V. M. Cellura, M.A. Cusenza, F. Guarino, V. La Rocca, S. Longo, I. Marotta, D. Panno. Analisi degli impatti energetici e delle emissioni di gas climalteranti di tecnologie e componenti per l'efficienza energetica degli edifici in un'ottica di ciclo di vita. Report Ricerca di Sistema Elettrico, Piano Triennale di Realizzazione 2019-2021 - I annualità, Linea di attività: Analisi degli impatti energetici e delle emissioni di tecnologie e componenti per l'efficienza energetica di edifici residenziali in ottica LCA.
- VI. Marotta, I., Guarino, F., Longo, S., Cellura, M., Environmental sustainability approaches and Positive Energy Districts: a literature review, (2021), <https://doi.org/10.3390/su132313063>
- VII. Marotta, I., Pean, T., Tamm, M., Guarino, F., Longo, S., Cellura, M., Salom, J. Hacia Distritos De Energía Positiva: Rediseño De Un Distrito Mediterráneo Mediante La Integración De Tecnologías Solares Y La Activación De La Flexibilidad Energética, CIES 2022 Congress (Palma de Maiorca, Spagna), available online: <https://agenda.uib.es/67569/section/40799/xviii-congreso-iberico-y-xiv-congreso-iberoamericano-de-energia-solar.html>, pp. 45-53
- VIII. Marotta, I., Pean, T., Guarino, F., Longo, S., Cellura, M., Salom, J. Towards positive energy districts: redesign of a mediterranean district through the integration of solar technologies and the activation of energy flexibility (2023), Solar, 2023, 3, 253-282. <https://doi.org/10.3390/solar3020016>
- IX. Mayer C., Türk A., Cantalapiedra M., Aylagas R. C., Allaerts K., Terttu V., Marotta I. EU EXCESS project, Deliverable 5.1: Report on cost optimal technological solutions for PEBs (Available online: [EXCESS | Resources \(positive-energy-buildings.eu\)](https://excess-project.eu/resources/positive-energy-buildings.eu))
- X. Ala-Juusela M., Mayer C., Marotta I., Türk A., Flexible user-Centric Energy positive houseS Deliverable 5.2: Report on suitable energy efficiency schemes in the context of PEBs, DOI: 10.13140/RG.2.2.11572.42888
- XI. Rose Mankaa, Julia Kantorovich, Marzia Traverso, Emanuela Giancola, Francesco Guarino, Ilaria Marotta, Rosaria Volpe, Adriano Bisello, Andreas Tuerk, Arij Chabrawi, and Olubukola Tokede, Social Impact Assessment For Positive Energy Districts – A Literature Review (under review, submitted to Energy and Buildings)
- XII. Adriano Bisello, Andreas Tuerk, Camilla Neumann, Ilaria Marotta, Maria Beatrice Andreucci, Matthias Haase, Francesco Guarino, Rosaria Volpe, Economic Impact Assessment for Positive Energy Districts: a Literature Review (under review, submitted to Energy and Buildings)

The undersigned is aware that, pursuant to art. 26 of Law 15/68, and Articles. 46 and 47 of Presidential Decree 445/2000, false statements, falsified acts and use of false acts are punishable under the Penal Code and special laws. Moreover, the undersigned authorizes the processing of personal data, in accordance with the provisions of Law 675/96 of 31 December 1996.

Date 15/12/23

SIGNATURE

