



DATE AND PLACE OF BIRTH

18/11/1989 - Turin, Italy

FAMILY STATUS

Married, Two children (2018,2021)

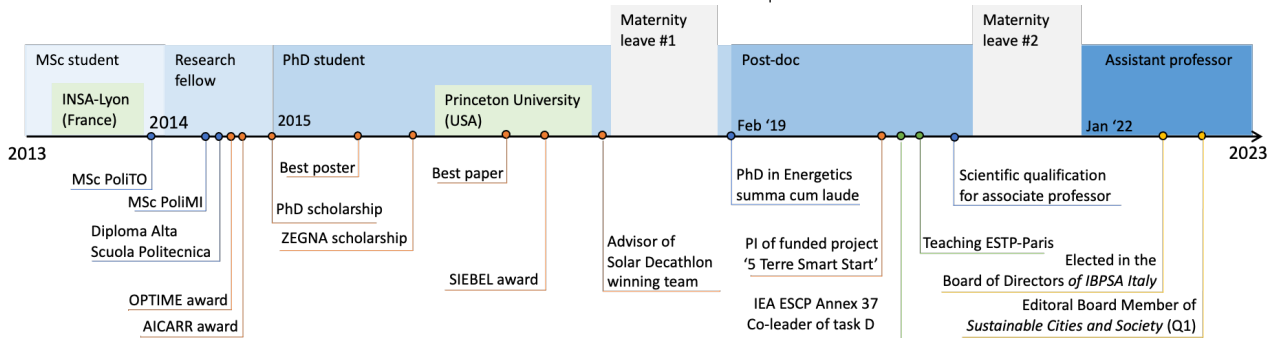
PERMANENT ADDRESS

CONTACT INFORMATION

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Curriculum Vitae of
Maria Ferrara, PhD



Graduated within the multidisciplinary international honour program Alta Scuola Politecnica based in Italy (2014), PhD with honors in Energetics (2019), Maria Ferrara is currently Assistant Professor at the Polytechnic of Turin, where she carries out teaching and research activities in the fields of building physics, energy use and comfort in the built environment.. In 2021, she has obtained the Italian national scientific qualification for the position of Associate professor (sector 09/C2).

Invited as visiting research collaborator at INSA-Lyon (France, 2014) and Princeton University (USA, 2016-2017), she is actively involved in international research activities, including International Energy Agency collaboration programs (ESCP Annexes), and participates in several national and international research and commercial projects mainly focused on the combined use of building simulation and artificial intelligence for the optimization of design and operation of highly performing buildings and energy systems at different scales. She is also coordinator of a multidisciplinary project on social innovation for smart and sustainable communities. Since 2022, she is part of the elective Board of Directors of IBPSA-Italy, the Italian section of the International Association of Building Performance Simulation.

For her research achievements, she has received several awards, including the prestigious Ermenegildo Zegna founders' scholarship and the Siebel Scholar appointment for academic excellence and demonstrated leadership in the field of Energy Science. Author of over 50 publications in International journals and conference proceedings, she is Member of the editorial board of a top-ranked international journal in her research field.

CURRENT ACADEMIC POSITION

2022-present	<p>Assistant professor</p> <p>Building physics and Building energy systems (09/C2 - ING-IND/11) Politecnico di Torino, Italy</p> <p style="text-align: right;"><i>Turin, Italy</i></p>
2021-present	<p>Italian Scientific Qualification for Associate Professor positions <i>Italy</i></p> <p>Sector: 09/C2 – Fisica Tecnica ed Ingegneria Nucleare (Thermal Sciences, Energy Technology and Building Physics and Nuclear Engineering) Validity: 1 June 2021 to 1 June 2031</p>

EDUCATIONAL and RESEARCH WORKING BACKGROUND

2018-2021	<p>Post-doc research fellow</p> <p>Politecnico di Torino, Italy</p> <ul style="list-style-type: none"> Program title: "Indoor environment and energy in buildings" 	Turin, Italy
2015-2018	<p>PhD in Energetics</p> <p>Polytechnic of Turin, Energy department, TEBE research group</p> <p>Princeton University, Visiting Student Research Collaborator (Sept '16 - Apr '17)</p> <p><i>Final evaluation: Excellent cum laude</i></p> <ul style="list-style-type: none"> Thesis title: "Simulation-based optimization for NZEB design: insights and beyond" Winner of a 3-years PhD scholarship 	Turin, Italy Princeton, USA
2014 (9 months)	<p>Grant researcher</p> <p>Polytechnic of Turin, TEBE research group</p> <ul style="list-style-type: none"> Main Research focus: energy modeling, cost optimal analysis 	Turin, Italy
2013 (4 months)	<p>Research Internship</p> <p>Centre d'Energétique et de Thermique de Lyon (CETHIL)</p> <ul style="list-style-type: none"> Participation in the COOPERA project on the techno-economic modeling and calibration of a real nearly Zero Energy Buildings 	Lyon, France
2011-2013	<p>Alta Scuola Politecnica program of Excellence</p> <p>Joint Program - Polytechnic of Turin, Polytechnic of Milan</p> <ul style="list-style-type: none"> Multidisciplinary project on community-based policies for natural resources sustainable development Winner of the competition for attending the Alta Scuola Politecnica and for the assignment of a full 2-year scholarship 	Italy
2011-2013	<p>Master Degree in Architecture Construction-City</p> <p>Polytechnic of Turin, Architecture department</p> <p>Polytechnic of Milan, Architecture department</p> <p><i>110/110 Summa cum laude</i></p> <p><i>GPA: 4.0/4.0 (top one percent of students nationally)</i></p> <ul style="list-style-type: none"> Defended thesis on the modeling and optimization of Zero Energy buildings. made in cooperation with the Centre d'Energétique et de Thermique de Lyon (CETHIL) at the INSA-Lyon (National Institute of Applied Science) University, Lyon, France 	Turin, Italy Milan, Italy
2008-2011	<p>Bachelor degree in Science of Architecture</p> <p>Polytechnic of Turin, Architecture department</p> <p><i>110/110 Summa cum laude</i></p> <p><i>GPA: 4.0/4.0 (top one percent of students nationally)</i></p> <ul style="list-style-type: none"> Defended thesis on the preliminary design of Zero Energy districts 	Turin, Italy
2003-2008	<p>Scientific High School Diploma</p> <p>Scientific Lyceum "C. Cattaneo"</p> <p><i>100/100</i></p> <p><i>GPA: 4.0/4.0 (top one percent of students nationally)</i></p>	Turin, Italy

 AWARDS and FELLOWSHIPS

2017	Siebel Scholar in Energy Science, Class of 2017 Merit-based grant awarded to top students from the world's leading graduate schools, for academic excellence in performing distinguished research focused on energy science and demonstrated excellence in terms of leadership qualities inside and outside academic community.	USA
2017	Best paper award Sustainability in Energy and Buildings Conference 2017 <ul style="list-style-type: none"> • Paper title: "Ethical issues of monitoring sensor networks for energy efficiency in smart buildings: a case study" 	Greece
2016	Ermenegildo Zegna Founder Scholarship Scholarships to enable a small number of selected exceptionally promising Italians, who have the potential to become leaders in their field, to undertake research outside Italy in one of the world's top universities	Italy
2015	Best poster award AIIA MidTerm Conference "New Frontiers of Biosystems and Agricultural Engineering for Feeding the Planet" <ul style="list-style-type: none"> • Poster title: Modeling and calibration of a multi-energy system for a chocolate industry 	Italy
2014	AICARR award Promoted by the Italian Heating, Ventilation and Air Conditioning Associations <ul style="list-style-type: none"> • The award is annually given to the four best Italian Master thesis in the field of energy efficiency and sustainability 	Italy
2014	OPTIME award Promoted by the Industrial Association of Turin <ul style="list-style-type: none"> • The award is annually given to the best students of Turin universitie 	Italy

 ACTIVITY IN RESEARCH PROJECTS

2023	"QRAD-PoliTO 2021-24" Research partnership agreement between Politecnico di Torino and QRAD consortium <ul style="list-style-type: none"> • Scientific co-supervisor and operative coordinator • Modelling and simulation of innovative low-thickness radiant systems, policy design and cost-market evaluation in the context of the current EU legislation 	Italy
2022	Collaboration with the EU Joint Research center <i>for the development of the report "Wider Benefits and wider scale: an evolved cost-optimal methodology focused on district level - scientific inputs to future EPBD review and recast</i>	EU
2019-present	IEA ESTCP Annex 37 International Energy Agency Energy Storage Technology Collaboration Programme "Smart Design and Control of Energy Storage Systems" (operating agent prof. Ryozo Ooka) <ul style="list-style-type: none"> • Co-leader of subtask D "Optimization of Storage control at building level" • Contributor of Subtask C "Optimization of storage design" 	World

2019-present	<p>National PRIN “Next.com”</p> <p>“The NEXT generation of multiphysics and multidomain environmental COMfort models: theory elaboration and validation experiment”</p> <ul style="list-style-type: none"> • Assistant to the project PI prof. E Fabrizio • Coordination of activities of the Politecnico di Torino research unit 	<i>Italy</i>
2019-2021	<p>“5 Terre Smart Start” project</p> <p>National call “Smart cities and communities and social innovation”</p> <ul style="list-style-type: none"> • Conception and coordination as PI of the project (funded 195000 €) 	<i>Italy</i>
2018-2019	<p>PrinceTO project</p> <p>Internationalisation project to develop collaboration with Princeton University</p>	<i>Italy, USA</i>
2015-2018	<p>IEA ESTCP Annex 3 I</p> <p>International Energy Agency Energy Storage Technology Collaboration Programme "Energy storage with Energy Efficient Buildings and Districts: Optimization and Automation"(Operating agent: Prof. Fariborz Haghighat)</p> <ul style="list-style-type: none"> • Special recognition of contribution in the final report 	<i>World</i>
2013-2015	<p>COOPERA project</p> <p>Polytechnic of Turin, INSA-Lyon and Region Rhone-Alpes</p> <p>“Modélisation des bâtiments zéro-énergie: optimisation technico-économique”</p>	<i>Italy, France</i>
2010-2011	<p>“OB.CO - Object Composition” project</p> <p>University Call “5 x 1000 politecnico” of the Polytechnic of Turin</p> <ul style="list-style-type: none"> • Conception and coordination as PI of the project (funded 5000 €) 	<i>Italy</i>
2015-present	<p>Participation in other national research projects</p> <p><i>Among others:</i></p> <ul style="list-style-type: none"> • “Poveri noi” project (with Future Urban Legacy Lab), • CSP Starting Grant 2016 	<i>Italy</i>

APPLIED RESEARCH and PROFESSIONAL EXPERIENCE

2022-present	<p>Scientific consultant</p> <p>Q-rad - Consorzio Italiano Produttori di Sistemi Radianti</p> <ul style="list-style-type: none"> • Consultancy and energy modeling for radiant energy systems • Advisor activities for strategic planning and techno-economic analysis 	<i>Italy</i>
2022-present	<p>Scientific consultant</p> <p>Rhoss SpA</p> <ul style="list-style-type: none"> • Consultancy and energy modeling for new heat pump systems • Advisor activities for strategic planning and techno-economic analysis 	<i>Italy</i>
2020-present	<p>Consultant - energy modeler</p> <p>PRODIM srl - engineering firm</p> <ul style="list-style-type: none"> • Consultancy and energy modeling for building energy system sizing and energy performance calculations 	<i>Turin, Italy</i>

2018-2021	<p>Energy specialist</p> <p>GET - Generate Sustainable Thinking</p> <ul style="list-style-type: none"> • Consultancy regarding energy simulations for LEED certification 	Turin, Italy
2014 (1 months)	<p>Energy Consultant</p> <p>TRA s.r.l. - architectural firm</p> <ul style="list-style-type: none"> • Consultancy for the preliminary design of a multi-family building: energy simulation, techno-economic evaluation, environmental sustainability assessment 	Turin, Italy

TEACHING EXPERIENCE

2022-present	<p>Teaching in Post-graduate courses</p> <p>Polytechnic of Turin, PhD Program in Energetics</p> <ul style="list-style-type: none"> • Course: Energy in Smart Buildings (English - A.A. 2021/2022) <p>II level Master program in Climate Change: Adaptation And Mitigation Solutions</p> <ul style="list-style-type: none"> • Course: Energy Efficient Buildings (English - A.A. 2021/2022) <p>II level Master program in TECHS for CHANGE</p> <ul style="list-style-type: none"> • Course: Energy iAccess for All (English - A.A. 2018/2019) 	Turin, Italy Turin, Italy Turin, Italy
2021-present	<p>Teaching in Graduate courses</p> <p>Polytechnic of Turin, MSc Program in Architecture</p> <ul style="list-style-type: none"> • Course: Building physics and energy system in architecture (Italian) • Course: Architectural design Atelier (Italian) • Course: Energy transition and low carbon architecture (Italian) <p>Polytechnic of Turin, MSc Program in Building Engineering</p> <ul style="list-style-type: none"> • Course: Design of built environment for resilience to climate change (Italian) <p>University of Naples Federico II, MSc Program in Mechanical Engineering</p> <ul style="list-style-type: none"> • Course seminar: "Potenzialità e limiti degli strumenti di simulazione dinamica e ottimizzazione numerica a supporto del progetto di NZEB" (Italian) 	Turin, Italy Turin, Italy Naples Italy
2015-present	<p>Tutoring in Graduate courses</p> <p>Polytechnic of Turin, MSc Program in Architecture</p> <ul style="list-style-type: none"> • Course: Building physics and energy system in architecture (Italian) • Course: Architectural design Atelier (Italian) <p>Polytechnic of Turin, BSc Program in Energy Engineering</p> <ul style="list-style-type: none"> • Course: Building physics and building systems (Italian) <p>Polytechnic of Turin, MSc Program in Building Engineering</p> <ul style="list-style-type: none"> • Course: Air-conditioning, Acoustics and Lighting of outdoor environment (Italian) 	Turin, Italy Turin, Italy Turin, Italy
2017-present	<p>Teaching at professional training courses</p> <p>UNIVER - Consorzio Università e Impresa Vercelli (2023)</p> <p>OLTRE - Agenzia Formativa (2018-20)</p> <p>INARCH - Istituto nazionale di architettura (2018)</p> <p>SENFORS - Sistema Edile Novarese Formazione Sicurezza (2017-18)</p>	Turin, Italy Turin, Italy Turin, Italy Novara, Italy

MENTORSHIP EXPERIENCE

2015-present	Supervision of Master thesis students	
	Polytechnic of Turin, MSc Program in Architecture	Turin, Italy
	<ul style="list-style-type: none"> G. Battaglia (2023), A. Tolve (2020), Y. Ngatchou (2017), A. Monti (2016), C. Badagliacca (2016), E. Cisotto (2016), M. Alvand (2017), Z. Gholami (2017), V. Cravino (2015) 	
	Polytechnic of Turin, BSc Program in Energy Engineering	Turin, Italy
2017-2018	Supervision of students in international competitions	
	Solar Decathlon China 2018 (C. Lisciandrello, A. Messina - energy engineering team)	
	Polytechnic of Turin, MSc Program in Building Engineering	Turin, Italy
	<ul style="list-style-type: none"> M. Turco (2023), F. Prunotto (2017) 	
2017-2018	Polytechnic of Turin, and ENS of Cachan - MSc Program in Building Engineering	Italy, France
	<ul style="list-style-type: none"> J.C. Vallée (2017) 	

ACTIVITY IN SCIENTIFIC BODIES

2022-present	Member of Board of Directors of IBPSA-Italy
	IBPSA Italy fellow from 2017, elected in the Board of Directors for term 2022-2025
2017-present	Siebel Foundation - Scholar in Energy Science
	Siebel Scholars serve as key advisors to the Siebel Foundation, guiding the development of innovative programs the Foundation initiates, such as the Siebel Energy Institute.

REPRESENTATIVE ROLES IN ACADEMIC COMMUNITY

2018-2021	Representative of grant researchers (assegnisti di ricerca)
	of the Energy Department of Politecnico di Torino, Italy
2015-2018	Representative of PhD students
	of the Energy Department of Politecnico di Torino, Italy

ACTIVITY AS MEMBER OF EDITORIAL BOARD

2023-present	Editorial Board Member
	<i>Sustainable Cities and Society International Journal, Elsevier</i> Q1, IF 10.696 (2023)
2022-present	Associate Editor
	<i>Frontiers in Energy Efficiency journal, Frontiers</i>
2020-present	Guest editor
	<i>Applied Sciences Journal MDPI</i> - Q1, IF 2.838 (2023) - 3 Special issues

ACTIVITY AS REVIEWER AND REFEREE

2020 Expert reviewer for International Energy Agency (IEA) - Energy Technology Perspectives
2019 Expert reviewer of research projects for Estonian Research Council
2016-present Peer-reviewer for 9 International journals and 5 international conferences

PRESENTATIONS and INVITED SPEAKING

Invited speaker in 8 scientific events (6 international), presenter at 12 international conferences.

PUBLICATIONS

Author of 19 papers published in international ISI journals, 1 international book chapter, 16 peer reviewed conference papers indexed in Scopus, 10 papers published in conference proceedings, 11 other publications in informative journals or websites.

LANGUAGES

Italian - Native speaker

English - Advanced level

French - Advanced level

OTHER SKILLS AND INTERESTS

Music - Piano player, Voice performer (Music theory license, Inferior Degree of Piano, 2009)

Volunteering - Children and aged-people animation, concerts, yearly organization and management of social activities as board member of the NPO "Obiettivo Fraternità" (2014-2018)

Sport - Swimming, Dance, Fitness

Turin, 9 June 2023

Maria Ferrara

