

Stefania Renna

stefania.renna [at] cmcc.org • stefania.renna [at] polimi.it • <https://github.com/stfnrnn>
<https://orcid.org/0000-0001-8096-6320>

CURRENT POSITION

Politecnico di Milano, Milan (IT)

Nov 2022 - Current

Ph.D. Candidate, Ph.D. Programme in Science, Technology, and Policy for Sustainable Change (STEP-CHANGE), Department of Management, Economics and Industrial Engineering

Supervisor: Professor Massimo Tavoni

Tutor: Professor Andrea Castelletti

Research on air pollution for policy recommendations

CMCC Foundation - Euro-Mediterranean Center on Climate Change, Lecce (IT) and RFF-CMCC European Institute on Economics and the Environment (EIEE), Milan (IT)

Nov 2022 - Current

Visiting Scholar

AFFILIATIONS

The Computer Vision Foundation

2024-Current

Member

European Geosciences Union (EGU)

2024-Current

Annual Individual Member

European Association of Environmental and Resource Economists (EAERE)

2023

Annual Individual Member

RFF-CMCC European Institute on Economics and the Environment (EIEE), Milan (IT)

Jul 2020 - Sep 2021

Affiliated Scientist - Sustainable Earth Modelling Economics (SEME) division

EDUCATION

University of Milan, Milan (IT)

2017 - 2020

MSc in Economics and Political Science. Final score: 108/110

Air Pollution and the Impact of Energy Efficiency Interventions: Evidence from a Field Experiment in Italy, under the supervision of Professor Giovanna D'Adda and under the co-supervision of Professor Tommaso Frattini

University of Mannheim, Mannheim (DE)

Sep 2018 - Jan 2019

Department of Economics and Department of Political Science, Exchange Program

University of Milan, Milan (IT)

2011 - 2017

July 2025

BSc in Social Sciences for Globalisation: Specialisation in Cohesion and Social Development
Supervisor: Professor Angela Biscaldi

WORK EXPERIENCE

University of Maryland - Earth System Science Interdisciplinary Center (ESSIC), College Park, MD (US) *Nov 2024 – Apr 2025*
Short-term Scholar
Supervisor: Distinguished University Professor Zhanqing Li

RFF-CMCC European Institute on Economics and the Environment (EIEE), Milan (IT) *Sep 2021 – Oct 2022*
Research Collaborator
Research project on the impact of the agricultural sector on secondary inorganic aerosol and health in Lombardy, Italy (Grant: INHALE - Impact on human Health of Agriculture and Livestock Emissions)

The World Bank (WB), Washington, DC (US) *Jun 2020 - Jun 2021*
Short-Term Consultant
Air pollution emissions-concentrations functions through elastic net modelling

Fondazione Eni Enrico Mattei (FEEM), Milan (IT) *Apr 2020 - Jul 2020*
Post-Degree External Collaborator
Research on households' electrical consumption, online digital engagement and ambient air pollution in the context of European decarbonisation policy

European Anti Poverty Network (EAPN), Brussels (BE) *Apr 2019 - Aug 2019*
Trainee Assistant, Policy Team

Bending Spoons, Milan (IT) *Jun 2018 - Jun 2019*
External Collaborator, Quality Assurance & Product Teams

Fondazione Ivo de Carneri Onlus, Milan (IT) *Oct 2015 - May 2016*
External Collaborator, previously Trainee

Electoral Office, Milan (IT) *2011; 2016*
Function of Scrutineer - Municipal elections and referendum consultations

HONORS & SCHOLARSHIP

Global Excellence in Modelling Climate and Energy Policies (GEOCEP) *Nov 2024 - Current*
European Union's Horizon 2020 research and innovation programme

Politecnico di Milano, Milan (IT) *Nov 2022 - Current*
Fully funded Ph.D. scholarship

University of Milan, Milan (IT) *Apr 2019 - Aug 2019*
Erasmus+ Traineeship Scholarship, European Anti Poverty Network (BE)

University of Milan, Milan (IT) *Sep 2018 - Jan 2019*

July 2025

PEER REVIEWED

Francesco Granella, Stefania Renna, and Lara Aleluia Reis. The formation of secondary inorganic aerosols: A data-driven investigation of Lombardy's secondary inorganic aerosol problem. *Atmospheric Environment*, 327:120480, June 2024. ISSN 1352-2310. DOI: 10.1016/j.atmosenv.2024.120480

Stefania Renna, Jacopo Lunghi, Francesco Granella, Maurizio Malpede, and Damiano Di Simine. Impacts of agriculture on PM₁₀ pollution and health in the Lombardy region in Italy. *Frontiers in Environmental Science - Toxicology, Pollution and Environment. Atmospheric Aerosol and Pollution: Characterization Techniques and Source Identification Special Issue*. DOI: 10.3389/fenvs.2024.1369678

Stefania Renna, Francesco Granella, Lara Aleluia Reis, and Paulina Schulz-Antipa. CLAQC v1.0 – Country Level Air Quality Calculator. An empirical modeling approach. *Geoscientific Model Development*. DOI: 10.5194/gmd-18-2373-2025

UNDER REVIEW

The Effect of Air Purifiers in Schools, with Jacopo Bonan, Francesco Granella, Luis Alejandro Sarmiento, and Massimo Tavoni. Resources for the Future Working Paper 25-17, June 2025 [\[URL\]](#)

WORK IN PROGRESS

A global dataset of estimated air quality station source type and area characteristics information, with Lara Aleluia Reis and Carlos Rodriguez Pardo

A feasibility analysis of the revised World Health Organization air quality guidelines for PM, with Lara Aleluia Reis, Zhanqing Li, Carlos Rodriguez-Pardo, Massimo Tavoni, and Jing Wei

REGISTERED RANDOMIZED CONTROLLED TRIALS

Bonan et al., 2023. Indoor air quality and student welfare: The Effect of Indoor Air Purifiers in Schools, *AEA RCT Registry*. August 2024 [\[URL\]](#)

ACADEMIC CONFERENCE CONTRIBUTION

Organization of Conference “Economic adaptation to environmental and climate hazards: recent evidence and way”, University of Brescia (IT)	May 2025
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2025 European Geosciences Union General Assembly (EGU25), Vienna (AU). Oral presentation: Improving indoor air quality in schools: Evidence from an air purifier intervention with low-cost sensors.	Apr 2025
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2025 European Geosciences Union General Assembly (EGU25), Vienna (AU). Press Conference oral presentation: Take my breath away? How air pollution affects chronic diseases, schools and social mobility.	Apr 2025
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2024 American Geophysical Union (AGU) Annual Meeting, Washington, D.C. (US). Poster presentation: Enhancing Global Air Quality Monitoring Using High-Resolution Land Cover Data and Advanced Machine Learning Techniques.	Dec 2024
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July 2025

2024 European Conference on Computer Vision (ECCV), Milan (IT). Poster presentation: Fine-tuning Vision Transformers with Land Cover Data for Global Air Quality Monitoring.

Sep 2024

20th Global Emissions Initiative (GEIA) Conference - Towards mitigating air pollutant and greenhouse gas emissions, Brussels (BE). Poster presentation: CLAQC – A Country-Level Air Quality Calculator. An Empirical Modeling Approach.

Jun 2023

TEACHING EXPERIENCE

Global Environmental Challenges (MSc)

R Programming Language Instructor (8-10 hours), Politecnico di Milano, Milan (IT)

Spring 2023,

Spring 2024,

Spring 2025

LANGUAGES & COMPUTATIONAL SKILLS

Languages

Italian (native), English (fluent), German (B2 certificate), French (intermediate), Mandarin (HSK3-4), Spanish (intermediate), Swedish (beginner)

Software

R (data.table, dplyr, tidyverse, lubridate, ggplot2, raster, sf, glmnet, etc.), Python (NumPy, Pandas, Matplotlib, Scikit-learn, Dask, PyTorch, etc.), QGIS, Command-line interface, LaTeX, Gantproject, Ganttter, MS Office

1st July 2025, Stefania Renna

July 2025