Lorenzo Fabbri

PhD Student

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Research Interests

- Environmental and social determinants of **chronic diseases**, especially cancer and cardio-metabolic conditions.
- **Life-course** epidemiology.
- Transparent **causal** inference and evidence **triangulation**.

Academic Appointments

PhD Student
Instituto de Salud Global Barcelona (Barcelona, ES) 2021 - 2025

Student Research Assistant Fellowship
Università della Svizzera italiana (Lugano, CH) 2017 - 2017

Education

PG Certificate in Public Health
London School of Hygiene and Tropical Medicine (London, GB) 2025 - Present

- Basic Epidemiology (PHM101).

Graduate Certificate in Theoretical Statistics and Probability
The Open University (Milton Keynes, GB) 2024 - Present

- Mathematical statistics (M347): 91/100 With Distinction.

PhD Programme in Biomedicine
Universitat Pompeu Fabra (Barcelona, ES) 2021 - 2025

- Thesis: Early Life Exposure to Environmental Chemicals and Neurodevelopment through Childhood and Adolescence.
- Supervisor: Prof. Martine Vrijheid.

M.Sc. in Quantitative and Computational Biology
Università degli Studi di Trento (Trento, IT) 2017 - 2019

- Thesis (FBK, Trento (IT)): Machine Learning for Predictive Drug Induced Hepatotoxicity. Supervised by: Dr. Cesare Furlanello, Dr. Marco Chierici, Prof. Enrico Domenici.
- Internship (HITS, Heidelberg (DE)): Machine and Deep Learning for Predictive Unbinding Kinetics of Kinases. Supervised by: Prof. Rebecca Wade, Dr. Daria Kokh, Prof. Raffaello Potestio.
- Final mark: 110/110 With Honors.

M.Sc. Student in Computational Science
Università della Svizzera italiana (Lugano, CH) 2016 - 2017

- Project (USI, Lugano (CH)): Investigation by Computational Techniques of Channelopaties related to Sodium Channels. Supervised by: Prof. Vittorio Limongelli, Prof. Daniele Di Marino.

B.Sc. in Biotechnology
University of Parma (Parma, IT) 2012 - 2016

- Thesis (RWTH, Aachen (DE)): Whole Body PBPK Modeling of Valproic Acid. Supervised by: Prof. Elena Maestri, Prof. Lars M. Blank, Dr. Henrik Cordes.
- Final mark: 103/110.

Grants and Fellowships

Causal Inference for Environmental Mixtures
ATHLETE (Barcelona, ES) 2024

Causal Inference for Environmental Mixtures
Centro de Investigación Biomédica en Red (Madrid, ES) 2024

Meritatamente 2023
Società Unione Mutuo Soccorso (San Marino, SM) 2024

Meritatamente 2022
Società Unione Mutuo Soccorso (San Marino, SM) 2022

Erasmus+ Traineeship Programme Scholarship
University of Trento (Trento, IT) 2019

Faculty of Informatics Scholarship
Università della Svizzera italiana (Lugano, CH) 2016

Erasmus Traineeship Programme Scholarship
University of Parma (Parma, IT) 2015

Honors and Awards

Student Tuition Waiver [declined]
CAUSALab Summer Courses on Causal Inference 2024

Outstanding Abstract by a Student
International Society for Environmental Epidemiology 2022

Publications

Journal articles

[1] **Lorenzo Fabbri**, Oliver Robinson, Xavier Basagaña, Leda Chatzi, Regina Grauleviien, Mònica Guxens, Manik Kadawathagedara, Amrit Kaur Sakhi, Léa Maitre, Rosemary McEachan, Claire Philippat, Óscar J. Pozo, Cathrine Thomsen, John Wright, Tiffany Yang and Martine Vrijheid. 'Childhood Exposure to Non-Persistent Endocrine Disruptors, Glucocorticosteroids, and Attentional Function: A Cross-Sectional Study Based on the Parametric g-Formula'. In: *Environmental Research* 264 (1st Jan. 2025), p. 120413. ISSN: 0013-9351. DOI: 10.1016/j.envres.2024.120413. pmid: 39577729. URL: https://www.sciencedirect.com/science/article/pii/S001393512402320X (visited on 25/11/2024).

[2] Nikos Stratakis, Augusto Anguita-Ruiz, **Lorenzo Fabbri**, Léa Maitre, Juan R. González, Sandra Andrusaityte, Xavier Basagaña, Eva Borràs, Hector C. Keun, Lida Chatzi, David V. Conti, Jesse Goodrich, Regina Grazuleviciene, Line Småstuen Haug, Barbara Heude, Wen Lun Yuan, Rosemary McEachan, Mark Nieuwenhuijsen, Eduard Sabidó, Rémy Slama, Cathrine Thomsen, Jose Urquiza, Theano Roumeliotaki, Marina Vafeiadi, John Wright, Mariona Bustamante and Martine Vrijheid. 'Multi-Omics Architecture of Childhood Obesity and Metabolic Dysfunction Uncovers Biological Pathways and Prenatal Determinants'. In: *Nature Communications* 16.1 (14th Jan. 2025), p. 654. ISSN: 2041-1723. DOI: 10.1038/s41467-025-56013-7. URL: https://www.nature.com/articles/s41467-025-56013-7 (visited on 15/01/2025).

[3] Nuria Güil-Oumrait, Nikos Stratakis, Léa Maitre, Augusto Anguita-Ruiz, Jose Urquiza, **Lorenzo Fabbri**, Xavier Basagaña, Barbara Heude, Line Småstuen Haug, Amrit Kaur Sakhi, Nina Iszatt, Hector C. Keun, John Wright, Leda Chatzi, Marina Vafeiadi, Mariona Bustamante, Regina Grazuleviciene, Sandra Andruaityt, Rémy Slama, Rosemary McEachan, Maribel Casas and Martine Vrijheid. 'Prenatal Exposure to Chemical Mixtures and Metabolic Syndrome Risk in Children'. In: *JAMA Network Open* 7.5 (23rd May 2024), e2412040. ISSN: 2574-3805. DOI: 10.1001/jamanetworkopen.2024.12040. URL: https://doi.org/10.1001/jamanetworkopen.2024.12040 (visited on 16/07/2024).

[4] Sarah Warkentin, Nikos Stratakis, **Lorenzo Fabbri**, John Wright, Tiffany C. Yang, Maria Bryant, Barbara Heude, Remy Slama, Parisa Montazeri, Marina Vafeiadi, Regina Grazuleviciene, Anne Lise Brantsæter and Martine Vrijheid. 'Dietary Patterns among European Children and Their Association with Adiposity-Related Outcomes: A Multi-Country Study'. In: *International Journal of Obesity* (27th Oct. 2024), pp. 1–11. ISSN: 1476-5497. DOI: 10.1038/s41366-024-01657-6. pmid: 39465309. URL: https://www.nature.com/articles/s41366-024-01657-6 (visited on 12/12/2024).

[5] **Lorenzo Fabbri**, Ronan Garlantézec, Karine Audouze, Mariona Bustamante, Ángel Carracedo, Leda Chatzi, Juan Ramón González, Regina Grauleviien, Hector Keun, Chung-Ho E Lau, Eduard Sabidó, Alexandros P Siskos, Rémy Slama, Cathrine Thomsen, John Wright, Wen Lun Yuan, Maribel Casas, Martine Vrijheid and Léa Maitre. 'Childhood Exposure to Non-Persistent Endocrine Disrupting Chemicals and Multi-Omic Profiles: A Panel

Study'. In: *Environment International* (26th Feb. 2023), p. 107856. ISSN: 0160-4120. DOI: 10.1016/j.envint.2023.107856. URL: https://www.sciencedirect.com/science/article/pii/S0160412023001290 (visited on 27/02/2023).

[6] Christoph Thiel, Henrik Cordes, **Lorenzo Fabbri**, Hélène Eloise Aschmann, Vanessa Baier, Ines Smit, Francis Atkinson, Lars Mathias Blank and Lars Kuepfer. 'A Comparative Analysis of Drug-Induced Hepatotoxicity in Clinically Relevant Situations'. In: *PLOS Computational Biology* 13.2 (2nd Feb. 2017), e1005280. ISSN: 1553-7358. DOI: 10.1371/journal.pcbi.1005280. URL: https://journals.plos.org/ploscompbiol/article?id=10.1371/journal.pcbi.1005280 (visited on 20/09/2023).

Articles under review and revising

1. Prenatal and Childhood Exposure to Mixtures of Environmental Chemicals and Adolescence Attentional Problems: A Triangulation Study. Under review at *Environment International*.

Software packages

causaleffects: Estimating causal effects
https://github.com/lorenzoFabbri/causaleffects 2024

myphd: A easy to use package for common tasks in epidemiology and causal inference research projects
https://github.com/isglobal-cep/myphd 2024

replicating-papers: Replicating papers from the epidemiology and causal inference literature
https://github.com/lorenzoFabbri/replicating-papers 2024

Conferences, Workshops, and Talks

Research presentations and conference participation

See https://figshare.com/authors/Lorenzo_Fabbri for posters.

A precision environmental health approach to childhood obesity and metabolic dysfunction: identifying biological pathways and prenatal determinants
ISEE Annual Conference, Santiago (CL) 2024

Prenatal Exposure to Chemical Mixtures and Metabolic Syndrome Risk in European Children
ISEE Annual Conference, Santiago (CL) 2024

Childhood exposure to non-persistent endocrine disrupting chemicals and multi-omic profiles: a panel study
ISEE Annual Conference, Athens (GR) 2022

Childhood exposure to non-persistent endocrine disrupting chemicals and multi-omic markers in a population-based child cohort
EURION Cluster Annual Meeting (online) 2022

Childhood exposure to non-persistent endocrine disrupting chemicals and multi-omic markers in a population-based child cohort
International Prenatal Programing and Toxicity Meeting (online) 2022

Efficient and Portable MPI Support for Approximate Bayesian Computation
Platform for Advanced Scientific Computing Conference, Lugano (CH) 2017

Talks and workshops

See https://github.com/lorenzoFabbri/talks for slides and materials.

Transparent causal inference for observational epidemiology
Colicino Group, NYC (via Zoom) Jan 2025

Continuing Education

Spring School in Causal Inference with Observational Data
Causal Insights, Leeds (UK) Apr 2022

Computational Bayesian methods using brms in R
Physalia Courses, online Feb 2022

ELIXIR Omics Integration and Systems Biology
National Bioinformatics Infrastructure Sweden, online Sep 2021

Advanced Statistics: Statistical Modelling
Swiss Institute of Bioinformatics, online Aug 2021

Alpine Exposome Summer School
Inserm and ATHLETE, online Jun 2021

Metabolomics Data Processing and Data Analysis
University of Birmingham, online Feb 2021

Mendelian Randomisation
Imperial College London, online May 2020

Image Analysis and Modeling of Complex Biological Dynamics
University of Wurzburg, Wurzburg (DE) Sep 2017

Effective High Performance Computing Summer School
CSCS and University of Lugano, Lugano (CH) Jul 2017

MARVEL School on Variationally Enhanced Sampling
University of Lugano, Lugano (CH) Feb 2017

Advanced Course in Alternatives to Animal Experimentation
University of Genova, Genoa (IT) Nov 2015

Service

Referee

Scientific Reports (1).

Working groups

International Society for Environmental Epidemiology
Students and New Researchers Network 2022 - 2023

COnsortium of METabolomics Studies
Early Career Scientist Working Group 2022 - 2022

Professional memberships

Centro de Investigación Biomédica en Red (CIBERESP)
Member 2024 - 2025

Society for Longitudinal and Lifecourse Studies
Member 2024 - Present

Society for Epidemiologic Research
Member 2021 - 2024

Skills

Languages	Italian (native), English (C1, IELTS 7.0), Spanish (basic)
Programming Languages	R, Python, MATLAB, C
Markup Languages	LaTeX, Quarto/RMarkdown
Software Development	git, SLURM, High Performance Scientific Computing