Aurora Poggi

Curriculum Vitae

Lindstedtsvägen 25
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Education

September - December 2025 — **Research visit**,
mathLab, SISSA, Trieste, Italy.
Focus on Graph Neural Networks (GNNs), Deep Operator Neural Network (DeepONet) and Neural ODEs on Calcium Signaling in cell culture

January 2023 - — **PhD student in Applied and Computational Mathematics founded by the WASP Program**,
Stochastic models for dynamics of highly coupled systems and applications to imaging,
KTH Royal Institute of Technology, Stockholm, Sweden.

2020 - 2022 — **Master's degree in Mathematics**,
With focus in the following courses: 'Statistical learning', 'Mathematical modeling in the applied sciences', 'Stochastic calculus',
University of Verona, Italy.

June 2022 - September 2022 — **Internship**,
Master's Thesis: *"Electricity Price Forecasting via statistical and deep learning approaches: the German case", Supervisor: Luca Di Persio and Co-Supervisor: Matthias Ehrhardt*,
Bergische Universität Wuppertal, Germany.

2021 - 2022 — **Erasmus + Study**,
Courses: *"Adaptive methods for data based decision making" and "Interest rate modelling via SPDE's"*,
University of Oslo, Norway.

2022 - 2022 — **Partnership**,
Course: *"Computational Algebra"*,
University of Trento, Italy.

2017 - 2020 — **Bachelor's degree in Applied Mathematics**,
Thesis: *"Deterministic and stochastic models for opinion making"*, Supervisor: Paolo Dai Pra,
University of Verona, Italy.

Teaching

Spring 2026 — **SF1626**, *'Multivariate Calculus'*.

Spring 2026 — **SF2930**, *'Regression Analysis'*.

Spring 2025 — **SF2943**, *'Time Series Analysis'*.

Autumn 2024 — **SF1672**, *HT23 'Linear Algebra'*.

Spring 2024 — **SF1685**, *VT24 'Calculus in One Variable'*.

Autumn 2023 — **SF1672**, *HT23 'Linear Algebra'*.

Spring 2023 — **SF1677**, *VT23 'Foundation of Analysis'*.

Projects

June 2022 - September 2022 — **Master Thesis: *Electricity Price Forecasting via statistical and deep learning approaches: the German case***,
The thesis focuses on forecasting a univariate time series using a variety of models, including inferential statistics (ARIMA and SARIMA) and neural network based models (LSTM). All the code part was done in Python, using the most famous libraries for dataframe, time series analysis and visualization.,
Bergische Universität Wuppertal, Germany.

3-9 July 2022 **Participation in the 35th ECMI Mathematical Modelling Week**,
Group Project: *Deep Learning for Modeling Filamentous Sludge Bulking*,
University of Verona, Italy.

February 2022 **Examination project for the course *Stochastic Calculus***,
Title: *Lévy processes in finance and risk management*,
University of Verona, Italy.

December 2021 **Examination project for the course *Adaptive methods for data based decision making***,
We model the effect of vaccination against COVID-19 on a population. The goal was to design a vaccination strategy which minimize the rate of deaths in the vaccinated population. We discuss the issue of privacy in the data, then we analyze the issue of fairness in the results of the model as well as in the previous vaccination actions prior to our policy decisions,
University of Oslo, Norway.

June 2021 **Examination project for the course *Mathematical modeling in the applied sciences***,
Title: *SIR model for pandemic COVID-19*,
University of Verona, Italy.

February 2021 **Examination project for the course *Statistical learning***,
I develop a Python software for analying a dataset acquired by an autonomous agent. The goal was discover the main properties of the data and, among them, relationships between variables,
University of Verona, Italy.

Publications

Preprint

September 2026 **Equation free data-driven modelling of chaotic processes**, ***Aurora Poggi***, *Marco Martens, Hjalmar Brismar, Ozan Öktem, Liviana Palmisano*, Submitted, Arxiv [arXiv:2609.08530].

Conference Papers

January 2026 ***SEMI-LAGRANGIAN PHYSICS-INFORMED NEURAL NETWORKS (SL-PINNS) FOR SOLVING HYPERBOLIC PARTIAL DIFFERENTIAL EQUATIONS (PDES)***, *Edoardo Monti, Kateryna Morozovska,* ***Aurora Poggi****, Khemraj Shukla*, AI&PDE workshop at ICLR.

Journal Papers

April 2023 ***Electricity Price Forecasting via statistical and deep learning approaches: the German case***, *Luca Di Persio, Matthias Ehrhardt,* ***Aurora Poggi***, MDPI.

Conferences and Summer School

6-11 July 2026 **International Conference on Machine Learning (ICML)**,
Seoul, South Korea.
Attended

14-15 January 2026 **WASP Winter Conference**,
WASP, Örebro, Sweden.
Poster presentation

22 - 26 September 2025 **Young Applied Mathematicians Conference (YAMC) 2025**,
Padova, Italy.
Talk

4 - 8 August 2025 **Mathematical and Scientific Machine Learning (MSML) 2025**,
Naples, Italy.
Poster presentation

28 July - 1 August 2025 **Applied Inverse Problems (AIP) 2025**,
FGV, Rio de Janeiro, Brasil.
Talk at MS11 XAIP

15 - 29 June 2025 **Physics-Informed Neural Networks (PINNs) Summer School**,
KTH, Stockholm, Sweden.

14-15 January 2025 **WASP Winter Conference**,
WASP, Norrköping, Sweden.
Poster presentation

12 - 16 August 2024 **Generative AI Summer School**,
WASP, Norrköping, Sweden.

24 - 26 July 2024 **Data-driven Dynamical Systems Summer School**,
University of Bremen, Germany.

20 May - 21 June 2024 **Scientific Machine Learning for Simulation and Inverse Modelling**,
Digital Futures, Stockholm, Sweden.

10-12 January 2023 **WASP Winter Conference**,
Norrköping, Sweden.

6-10 June 2022 **International Conference on Computational Finance (ICCF2022)**,
Bergische Universität Wuppertal, Germany.
Attended

Computer Skills

Languages LaTeX, Python, MATLAB/Octave, Microsoft Excel, HTML

Languages

Languages Italian (Mothertongue), English (Fluent)