Giulia Pucci

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EDUCATION

KTH - Royal Institute of Technology **09 2022 – current**

PhD Student - Department of Mathematics - Division of Mathematical Statistics. *Stockholm, Sweden*

- Supervisor: Associate Professor Nacira Agram

Sapienza University of Rome **09 2020 – 07 2022**

Master of Science - Final Grade : ***110/110 with honors*** *Rome, Italy*

- Thesis in Control Theory: "Optimal strategies for a debt management problem." Supervisor: Prof. Graziano Crasta

Sapienza University of Rome **09 2017 – 07 2020**

Bachelor of Science - Final Grade : ***110/110 with honors*** *Rome, Italy*

- Thesis: "Calculus of Variations: an application to the protein structure." Supervisor: Prof. Annalisa Malusa
- **Erasmus exchange program** at Stockholm University during the first semester of the academic year 2019-2020

PUBLICATIONS

∗ Agram, N., Espen Benth, F., & Pucci, G. (2025) **Installation of Renewable Capacities to Meet Energy Demand and Emission Constraints under Uncertainty** IMA Journal of Management Mathematics, dpaf023

∗ Agram, N., Pucci, G., & Øksendal, B. (2024) **Impulse Control of Conditional McKean–Vlasov Jump Diffusions** Journal of Optimization Theory and Applications, 200(3), 1100–1130

PREPRINTS

∗ Agram, N., & Pucci, G. (2025) **Deep BSVIEs Parametrization and Learning-Based Applications** arXiv:2507.01948

∗ Agram, N., Arharas, I., Pucci, G., & Rems, J. (2025) **Deep Learning for Energy Market Contracts: Dynkin Game with Doubly RBSDEs** arXiv:2503.00880

∗ Gozzi, F., Leocata, M., & Pucci, G. (2024) **Network-Based Optimal Control of Pollution Growth** arXiv:2406.15338

RESEARCH VISITS

∗ Luiss Guido Carli University Aug 2023 – Dec 2023 & Mar 23 – Apr 3, 2025
Collaborated with Prof. Fausto Gozzi and Dr. Marta Leocata on optimal control for environmental systems. Rome, Italy

∗ University of Oslo June 2023
Short-term research visit to collaborate with Prof. Bernt Øksendal and Prof. Fred Espen Benth on stochastic control and energy modeling.Oslo, Norway

TALKS

∗ **12th General AMaMeF Conference**, Verona, Italy *Jun 23–27, 2025*
Presentations:
 · **Deep Learning for Energy Market Contracts: Dynkin Game with Doubly RBSDEs**
 · **Deep BSVIEs Parametrization and Learning-Based Applications**

∗ **Talk at Luiss Guido Carli University**, Rome, Italy *Mar 26, 2025*
Presentation: **Deep Learning for Energy Market Contracts: Dynkin Game with Doubly RBSDEs**

∗ **Stochastics in Mathematical Finance and Physics Conference**, Hammamet, Tunisia *Oct 21–25, 2024*
Presentation: **Installation of Renewable Capacities to Meet Emission Targets and Demand under Uncertainty**

∗ **Insurance Data Science Conference**, Stockholm University, Sweden *Jun 17–18, 2024*
Presentation: **Network-Based Optimal Control of Pollution Growth**

∗ **Conference on Stochastic Analysis with Applications to Finance, Energy and Insurance**, Algeria *Mar 6, 2024*
Presentation: **Stochastic Modeling in the Energy Sector**

∗ **Workshop on S(P)DEs: Numerics and Applications**, Linnaeus University, Växjö, Sweden *Dec 6–8, 2023*
Presentation: **Impulse Control of Conditional McKean–Vlasov Jump Diffusions**

POSTER PRESENTATIONS

* **Summer School in Financial Mathematics - "Mathematics of FinTech"**, TU Delft, Netherlands — Sep 4–8, 2023
* **Machine Learning and Optimal Control Summer School**, Gaeta, Italy — May 27–31, 2024

ATTENDANCE

* **Conference in Memory of Tomas Björk**, Swedish House of Finance, Stockholm, Sweden — Oct 10–11, 2022
* Linnaeus–Maghreb **Workshop in Stochastic Analysis**, Linnaeus University, Växjö, Sweden — Nov 16, 2022
* **Workshop on Stochastic Control Theory**, KTH Royal Institute of Technology, Stockholm, Sweden — Oct 25–26, 2023
* **Workshop: Mean Field Games in Economics 2023**, Luiss University, Rome, Italy — Nov 9–10, 2023
* **Conference: Mathematical Approaches to Climate Change and its Impacts**, Pisa, Italy — Apr 22–23, 2024
* **Conference: Stochastic Control and Games for Risk and Regulation**, Hammamet, Tunisia — Oct 28–31, 2024

TEACHING AND SUPERVISION

Teaching Assistant
SF2701 Financial Mathematics, Basic Course 7.5 credits — *P4 2023, P4 2024, P4 2025*

Bachelor's Thesis Supervision
SF100X Degree Project in Applied Mathematics (Regression Analysis) — *Spring 2025*

Teaching Assistant
SF2975 Financial Derivatives 7.5 credits — *P1 2025*

Master's Thesis Supervision
SF291X Degree Project in Financial Mathematics, Second Cycle (60528) — *Spring 2024*

Teaching Assistant
SF2930 Regression Analysis 7.5 credits — *P3 2024*

Bachelor's Thesis Supervision
SF100X Degree Project in Applied Mathematics (Regression Analysis) — *Spring 2023*

RELEVANT COURSEWORK

- Control Theory
- Stochastic Processes
- ML and Neural Networks
- Mathematical Finance
- Stochastic Calculus
- Numerical Modeling
- Pollution Control

PROGRAMMING SKILLS

- Python
- C
- Matlab
- Julia
- Wolfram Mathematica
- R