

Gianmarco Andreana

POSTDOCTORAL RESEARCHER · ACADEMIC FELLOW

Bergamo, Italy

✉ gianmarco.andreana@unibg.it | 🏠 gianmarcoandreana.github.io | 🔗 <https://www.linkedin.com/in/gianmarco-andreana-120b74252/> | 🎓 Gianmarco Andreana

“Research in transportation economics, operations research, energy markets, and deep learning.”

Education

University of Bergamo & University of Pavia

PH.D. IN APPLIED ECONOMICS AND MANAGEMENT

Bergamo & Pavia, Italy

2019 – 2023

Hebrew University of Jerusalem

VISITING RESEARCH

Jerusalem, Israel

2021 – 2022

University of Bergamo

M.S.E. IN MANAGEMENT ENGINEERING

Bergamo, Italy

2017 – 2019

University of Bergamo

B.S.E. IN MANAGEMENT ENGINEERING

Bergamo, Italy

2013 – 2017

Experience

University of Bergamo

POSTDOCTORAL RESEARCHER

Bergamo, Italy

Mar. 2024 – Present

Bocconi University

ACADEMIC FELLOW

Milan, Italy

Sep. 2024 – Present

Hebrew University of Jerusalem

POSTDOCTORAL RESEARCHER

Jerusalem, Israel

Jan. 2023 – Jan. 2024

University of Bergamo

LECTURER

Bergamo, Italy

2025 – Present

- Neural Network and Deep Learning (M.S. 149022-ENG)

University of Bergamo

LECTURER

Bergamo, Italy

2024 – 2025

- Industrial Organization (M.S.E. 37210-1)

Hebrew University of Jerusalem

LECTURER

Jerusalem, Israel

2023 – 2024

- Quantitative Models (M.B.A. 55815)

University of Bergamo & Bocconi University

TEACHING ASSISTANT

Italy

2019 – Present

- Computer Science (B.Econ. 86038), University of Bergamo, 2025–Present
- Microeconomics (B.I.E.M. 30065-17 & 30065-16), Bocconi University, 2024–Present
- Industrial Economics (B.Econ. 86036), University of Bergamo, 2024–2025
- Health Economics and Policy (M.S.E. 148009-M2), University of Bergamo, 2020–2021
- Market Regulation and Health Care (M.S.E. 37186-ENG), University of Bergamo, 2020–2021
- Summer School in Applied Health Econometrics and Health Policy, University of Bergamo, 2020
- Economics (B.S.E. 22045), University of Bergamo, 2019–2022
- Health Economics (B.S.E. 95010), University of Bergamo, 2019–2020

Transport Projects in Bergamo

CONSULTING & APPLIED RESEARCH

Bergamo, Italy

2023 – 2025

- Cost-Benefit Analysis of Bergamo Tramway T1 Extension (TEB), 2025
- Cost-Benefit Analysis of New Electric BRT Line in Bergamo (ATB), 2023

Publications & Working Papers

(ORCID: 0000-0002-5534-0999 – H-index: 3)

ARTICLE

2026

- Adler, N., Andreana, G. & de Jong, G.
- Highlights: This study combines passenger choice modelling and airline competition to assess the societal value of airport slots. Reducing slot capacity at major hubs lowers overall welfare due to higher fares and weaker connectivity, while environmental gains are insufficient to offset consumer losses—except potentially when carbon costs are high, particularly at long-haul hubs.

Airport noise assessment and mitigation: A simple and flexible methodology

Case Studies on Transport Policy

ARTICLE

2024

- Andreana, G., Grampella, M., Martini, G., & Scotti, D.
- Highlights: This study presents a simple and general methodology to estimate airport noise zones and their associated social costs. It relies on commonly available aviation and residential data, combined with GIS techniques. The approach is applied to Italian and Spanish airports as case studies, and the results lead to policy recommendations, including the implementation of airport noise surcharges.

Aiding airlines for the benefit of whom? An applied game-theoretic approach

European Journal of Operational

Research

ARTICLE

2023

- Adler, N., & Andreana, G.
- Highlights: This study assesses bailout provisions granted to an entire industry during major exogenous shocks. A game-theoretic model is developed to evaluate potential Nash equilibrium outcomes, which is then applied to a real-world case study of European airlines following the COVID-19 crisis. The analysis examines the effects of government grants, loans, and equity interventions on social welfare. The findings suggest that the European Union should have implemented a unified bailout mechanism to prevent competitive distortions across the sector.

The disruptive impact of COVID-19 on air transportation: An ITS econometric analysis

Research in Transportation

Economics

ARTICLE

2021

- Andreana, G., Gualini, A., Martini, G., Porta, F., & Scotti, D.
- Highlights: Aviation, which had been thriving with optimism about its future, suddenly faced a critical situation due to the COVID-19 pandemic. This study estimates the impact of the outbreaks on air transportation and analyzes their effects across ten global macro-regions. Using counterfactual dynamics, it measures the gap between the actual and the estimated trends that would have occurred without the pandemic. Empirical evidence indicates that activity levels declined by more than 80% in May 2020 and around 70% in September 2020. The negative effects were more severe for intercontinental routes and full-service carriers (FSCs), while low-cost carriers (LCCs) demonstrated slightly greater resilience.

Understanding flexibility investments in liberalized electricity markets under different risk attitudes

European Journal of Operational

Research (*revise & resubmit*)

WORKING PAPER (R&R)

2024

- Andreana, G., Coniglio, S., Halbrügge, S., März, A., Weibelzahl, M.
- Highlights: This paper studies the “flexibility puzzle” created by rising variable renewables and uncertain demand/CO₂ prices, evaluating four options—transmission, storage, generation, and demand flexibility. We propose a four-stage Stackelberg game: the TSO invests in lines, private firms invest in storage and backup generation, the zonal spot market clears, then the TSO clears redispatch. Reformulated as an equivalent optimization, the model is solved to global optimality and applied to a standard case study. Accounting for uncertainty is crucial: a risk-averse TSO (e.g., under regulation) yields markedly lower welfare than a risk-neutral one.

Competing on emission charges

WORKING PAPER

- Adler, N., Andreana, G., de Jong, G.
- Highlights: We build a two-stage game in which regional and global regulators set emission charges to maximize local welfare, and airlines respond by choosing fleets, frequencies, and fares—including how much of the charges to pass through and how to deploy aircraft across the network. The equilibrium reveals multiple distortions that can blunt environmental policy effectiveness. Applied to North American, Western European, and trans-Atlantic markets, the most efficient arrangement is a single regulator using tax discrimination across regions; however, strategic, self-interested regulatory interactions mean welfare gains can come at the expense of environmental outcomes.

Teaching

University of Bergamo

Bergamo, Italy

LECTURER

2025 – Present

- Neural Network and Deep Learning (M.S. 149022-ENG)

University of Bergamo

Bergamo, Italy

LECTURER

2024 – 2025

- Industrial Organization (M.S.E. 37210-1)

Hebrew University of Jerusalem

Jerusalem, Israel

LECTURER

2023 – 2024

- Quantitative Models (M.B.A. 55815)

- Computer Science (B.Econ. 86038), University of Bergamo, 2025–Present
- Microeconomics (B.I.E.M. 30065-17 & 30065-16), Bocconi University, 2024–Present
- Industrial Economics (B.Econ. 86036), University of Bergamo, 2024–2025
- Health Economics and Policy (M.S.E. 148009-M2), University of Bergamo, 2020–2021
- Market Regulation and Health Care (M.S.E. 37186-ENG), University of Bergamo, 2020–2021
- Summer School in Applied Health Econometrics and Health Policy, University of Bergamo, 2020
- Economics (B.S.E. 22045), University of Bergamo, 2019–2022
- Health Economics (B.S.E. 95010), University of Bergamo, 2019–2020

Student Supervision

Angelo Labriola

University of Bergamo

M.S.E. IN MANAGEMENT ENGINEERING

2021

- Thesis: "Benchmarking of rail cargo carriers in Italy"
- Supervisors: Prof. Davide Scotti and Dr. Gianmarco Andreana

Luca Crespolini & Gianmarco Lo Basso

University of Bergamo

B.S.E. IN MANAGEMENT ENGINEERING

2020

- Thesis: "Gulf Carrier Dominance in the Middle East"
- Supervisors: Prof. Davide Scotti and Dr. Gianmarco Andreana

Honors & Awards

GRANTS

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|------|--|-------------------|
| 2024 | Young Independent Researcher Group Grant (Principal Investigator) , University of Bergamo | Bergamo, Italy |
| 2023 | Conference Grant Summer 2023 , Israeli Smart Transport Research Center (ISTRC) | Jerusalem, Israel |
| 2022 | Cross Regional Grant , INFORMS, Transportation Science and Logistics Society | |

AWARDS

- | | | |
|-------------|--|-----------------------|
| 2022 | Best Paper by a Junior Researcher , International Transport Economics Association (ITEA) | Toulouse, France |
| 2022 | Best Student Presentation Competition , INFORMS Aviation Application Section (AAS) | Phoenix, USA |
| 2022 | Giovanni Manera Fellowship , University of Pavia | Pavia, Italy |
| 2022 | Tuition Scholarship for Discrete Choice Analysis Course , École Polytechnique Fédérale de Lausanne (EPFL) | Lausanne, Switzerland |
| 2021 | Best Student Paper Award , Air Transport Research Society (ATRS) Worldwide | Sydney, Australia |
| 2019 – 2023 | Ph.D. Scholarship , University of Bergamo | Bergamo, Italy |

Conference Presentations

8th Industrial Organization Winter Symposium

Passo del Tonale, Italy

PRESENTER

2025

6th SoAR Symposium on Aviation Research

Bari, Italy

PRESENTER

2025

Winter Workshop DSE, University of Bergamo

Castione della Presolana, Italy

PRESENTER

2025

INFORMS Annual Meeting

Seattle, Washington, USA

SESSION CHAIR AND PRESENTER

2024

- Chair of the Competition in the Aviation Industry Session

25th ISMP International Symposium on Mathematical Programming

Montréal, Canada

PRESENTER

2024

5th SoAR Symposium on Aviation Research

Luxembourg, Luxembourg

PRESENTER

2024

INFORMS Annual Meeting

Phoenix, Arizona, USA

SESSION CHAIR & PRESENTER

2023

- Chair of the AAS Best Student Presentation Competition Session

11th hEART Symposium of the European Association for Research in Transportation

PRESENTER

ETH Zurich, Switzerland

2023

4th SoAR Symposium on Aviation Research

PRESENTER

Toulouse, France

2023

INFORMS Annual Meeting

PRESENTER

Phoenix, Arizona, USA

2022

International Transportation Economics Association (ITEA)

PRESENTER

Toulouse, France

2022

3rd SoAR Symposium on Aviation Research

PRESENTER

Bergamo, Italy

2022

INFORMS Annual Meeting

PRESENTER

Anaheim, California, USA

2021

24th ATRS Worldwide

PRESENTER

Sydney, Australia

2021

Conference Organization & Committees

2024	Organizing Committee , 6th SoAR Symposium on Aviation Research	Bari, Italy
2024	Chair, Aviation Competition Session , INFORMS Annual Meeting	Phoenix, USA
2024	Organizing Committee , 5th SoAR Symposium on Aviation Research	Luxembourg, Luxembourg
2023	Chair, Best Presentation Award Committee , INFORMS Annual Meeting	Indianapolis, USA
2023	Organizing Committee , 3rd SoAR Symposium on Aviation Research	Bergamo, Italy

Skills

Programming Python, AMPL, Mathematica
Languages Italian (native), English (fluent)

Certificates & Training

2022	Transportation Economics School , International Transportation Economics Association (ITEA)	Toulouse, France
2022	Discrete Choice Analysis Course: Predicting Individual Behavior and Market Demand , École Polytechnique Fédérale de Lausanne (EPFL)	Lausanne, Switzerland
2020	Bootcamp , Advanced Risk and Portfolio Management (ARPM)	Online
2018	Summer School in Applied Health Econometrics and Health Policy , University of Bergamo	Bergamo, Italy
2018	Introductory Level Certificate , International Project Management Association (IPMA)	Italy

Scientific Societies

INFORMS – Institute for Operations Research and the Management Sciences

MEMBER

International

Ongoing

- Active member of the INFORMS Aviation Application Section (AAS).
- Participation in annual INFORMS meetings and competitions.

Mathematical Optimization Society (MOS)

MEMBER

International

Ongoing

- Engaged in optimization research community.

Reviewer Activity

- Transportation Science
- Transportation Research Part A: Policy and Practice
- Transportation Research Part E: Logistics and Transportation Review
- Economics of Transportation
- Journal of Air Transport Management
- IEEE Transactions on Industrial Informatics

- Applied Energy
- Science Progress
- European Journal of Operational Research
- Case Studies on Transport Policy
- Asian-Pacific Journal of Operational Research

References

Nicole Adler

PROFESSOR, BUSINESS SCHOOL

- Nicole.Adler@mail.huji.ac.il

Hebrew University of Jerusalem

Gianmaria Martini

PROFESSOR, DEPARTMENT OF ECONOMICS

- gianmaria.martini@unibg.it

University of Bergamo

Stefano Coniglio

ASSISTANT PROFESSOR, DEPARTMENT OF ECONOMICS

- stefano.coniglio@unibg.it

University of Bergamo