Curriculum Vitae
Giovanni Micheli

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Personal Information

Name and Surname: Giovanni Micheli
Birth: May 4, 1992
Nationality: Italian
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Current Academic Position

(Apr 2024 - Now) **Experienced Research fellow** (*Assegnista di ricerca experienced*) at the Department of Management, Information and Production Engineering, University of Bergamo (Academic discipline MATH-06/A).
Project title: Development of mathematical models for the evaluation of different coordination architectures between Transmission System Operator and Distribution System Operators: allocation efficiency and exercise of market power by operators in a dominant position. Supervisor: Prof. Maria Teresa Vespucci.

Former Academic Positions

- (Dec. 2020 - Nov. 2021) **Junior Research fellow** (*Assegnista di ricerca early stage*) at the Department of Management, Information and Production Engineering, University of Bergamo (Academic discipline MAT/09).
  Project title: Development of mathematical models for the simulation of scenarios in the decarbonization pathway of the national energy system. Supervisor: Prof. Maria Teresa Vespucci. Research fellowship funded by RSE (Ricerca sul Sistema Energetico).
- (Dec. 2021 - Nov. 2022) **Junior Research fellow** (*Assegnista di ricerca early stage*) at the Department of Management, Information and Production Engineering, University of Bergamo (Academic discipline MAT/09).
  Project title: Development of mathematical models for the simulation of the coupling between the electricity system and the gas system for the decarbonization of the national energy system. Supervisor: Prof. Maria Teresa Vespucci.
- (Feb. 2023 - Gen. 2024) **Junior Research fellow** (*Assegnista di ricerca early stage*) at the Department of Management, Information and Production Engineering, University of Bergamo (Academic discipline MAT/09).

Project title: Development of mathematical models for the simulation of the coupling between the electricity sector and the gas sector for the long-term decarbonization of the national energy system. Supervisor: Prof. Maria Teresa Vespucci.

EDUCATION

- (30 Mar. 2015) **BSc in Management Engineering** at University of Bergamo, mark: **110 cum Laude**. **Title of the thesis**: Optimal location for parking areas for the distribution of goods in an urban environment. Supervisor: Prof. Roberto Pinto.
- (20 Dec. 2016) **MSc in Management Engineering** at University of Bergamo, mark: **110 cum Laude**. **Title of the thesis**: Big Data Analytics: an aid to detection of non-technical losses in power utilities. Supervisor: Prof. Maria Teresa Vespucci.
- (8 Oct. 2021) **Ph.D. in Applied Engineering and Sciences** at University of Bergamo, mark: *Elevato*. **Title of the thesis**: Mathematical models and solution algorithms for generation and transmission expansion planning with high shares of renewables. Supervisor: Prof. Maria Teresa Vespucci.
- (May 2018 - Nov. 2025) As part of his academic formation, he attended several doctoral and post-doctoral schools aimed at deepening methodological knowledge and domain-specific expertise in optimization, data analysis, and energy systems.

  Research Schools Attended:

  - **Summer School on Clustering, Data Analysis and Visualization of Complex Data**
    Catania, Italy – 20–25 May 2018
    Topics: Clustering, Data Mining, R
  - **DTU Summer School on Modern Optimization in Energy**
    Copenhagen, Denmark – 25–30 June 2018
    Topics: Optimization, Electricity Markets, Power Systems
  - **Winter School on Energy Market Modelling**
    Kvitfjell, Norway – 3–8 March 2019
    Topics: Stochastic Optimization, Electricity Markets, Integrated Energy Systems
  - **Summer School on Optimization, Big Data and Applications**
    Veroli (FR), Italy – 1–6 July 2019
    Topics: Data Mining, Deep Learning, Neural Networks
  - **Research School on Optimization Models and Methods for Challenging Energy Problems**
    Erice (TP), Italy – 5–10 November 2024
    Topics: Electricity Markets, Game Theory, Bilevel Programming

RESEARCH INTERESTS

His research focuses on the development and application of optimization and statistical methods for decision-making under uncertainty, with particular emphasis on energy systems. His work combines methodological contributions in mathematical programming with applied modeling of electricity and gas markets, aiming to support the transition towards low-carbon energy systems.

Methodological contributions:

- Development of multistage and multi-horizon stochastic programming models for investment and operational planning;
- Design of decomposition and bounding techniques (e.g., relaxation of non-anticipativity constraints, scenario grouping methods, rolling horizon approaches) for large-scale stochastic models;
- Formulation of equilibrium models and game-theoretic approaches to simulate strategic behavior in energy markets;
- Development of bilevel programming models for the analysis of market strategies under network and regulatory constraints;
- Integration of statistical learning methods (e.g., decision trees, regression models, SVMs, neural networks) into optimization-based planning and forecasting tools.

Applications:

- Long-term generation, transmission, and storage expansion planning under uncertainty, with specific focus on the Italian and European energy systems;
- Operational planning of integrated electricity and gas systems with bi-directional energy flows under centralized and decentralized coordination architectures;
- Analysis of market power in energy markets, including strategic bidding and ancillary services provision;
- Asset-liability management models with risk measures and stochastic dominance constraints for financial institutions;
- Development of data-driven models for system imbalance analysis, price forecasting, and congestion management in electricity markets;
- Construction and use of realistic datasets to support policy analysis and scenario simulation for energy decarbonization.

Indicators of Scientific Production

- SCOPUS indicators: Documents 6; Citations 36; h-index 2;
- GOOGLE SCHOLAR global indicators: Citations 81; h-index 3; i10-index 2;
- GOOGLE SCHOLAR indicators from 2020: Citations 80; h-index 3; i10-index 2.

List of Publications

Articles in International Journals with Peer-Review Process

[1] Micheli, G., Soda, E., Vespucci, M., Gobbi, M. & Bertani, A. (2018) Big data analytics: an aid to detection of non-technical losses in power utilities. *Computational Management Science*, ISSN: 1619-697X, doi: 10.1007/s10287-018-0325-x.

[2] Micheli, G., Vespucci, M.T., Stabile, M., Puglisi, C. & Ramos, A. (2023) A two-stage stochastic MILP model for generation and transmission expansion planning with high shares of renewables. *Energy Systems*, ISSN: 1868-3967, doi: 10.1007/s12667-020-00404-w.

Articles in Conference Proceedings or Books Chapters with Peer Review Process

[3] Micheli, G., Vespucci, M.T., Stabile, M. & Cortazzi, A. (2021) Selecting and Initializing Representative Days for Generation and Transmission Expansion Planning with High Shares of Renewables. In: Gentile C., Stecca G., Ventura P. (eds), *Graphs and Combinatorial Optimization: from Theory to Applications*, AIRO Springer Series, vol. 5, Springer, Cham, March, doi: 10.1007/978-3-030-63072-0_25.

[4] Micheli, G. & Vespucci, M.T. (2021) A Survey on Modeling Approaches for Generation and Transmission Expansion Planning Analysis. In: Al-Baali M., Purnama A., Grandinetti L. (eds), *Numerical Analysis and Optimization*, Springer, November, ISBN: 978-3-030-72039-1, doi: 10.1007/978-3-030-72040-7_9

[5] Micheli, G., Tagliabue, L., Vespucci, M.T., Gaeta, M., Siface, D. & Lanati, F. (2021) A Medium Term Simulation Tool for the Integrated Gas and Power Systems – The Mathematical Formulation and an Application to a 2030 Italian Scenario. In: *Proceedings of the 2021 AEIT International Annual Conference (AEIT)*, Milan, Italy, pp. 1–6, IEEE, doi: 10.23919/AEIT53387.2021.9626880.

[6] Micheli, G., Vespucci, M.T., Gaeta, M., Siface, D., Fabio, L. & Tagliabue, L. (2024) Optimising Italian electricity and gas sector coupling in a 2030 decarbonized energy system. In: Bruglieri M., Festa P., Macrina G., Pisacane O. (eds), *Optimization in Green Sustainability and Ecological Transition*, AIRO Springer Series, vol. 12, Springer, February, ISBN: 9783031476853, doi: 10.1007/978-3-031-47686-0_1.

Ph.D. Thesis

[7] Micheli, G. (2021) Mathematical models and solution algorithms for generation and transmission expansion planning with high shares of renewables. *Ph.D. Thesis*. University of Bergamo doi: 10.13122/micheli-giovanni_phd2021-10-08.

Technical Reports: Deliverables Ricerca di Sistema (https://www.csea.it/ricerca-di-sistema/cose-rds/)

[8] Siface, D., Gaeta, M., Micheli, G., & Vespucci, M.T. (2020) Modelli e prototipi software di simulatori per analisi quantitative delle reti gas. *Deliverable Ricerca di Sistema*. Rapporto RSE 2001011 https://www.rse-web.it/rapporti/modelli-e-prototipi-software-di-simulatori.

[9] Siface, D., Tagliabue, L., Lanati, F., Micheli, G. & Vespucci, M.T. (2021) Sviluppo strumenti SW e simulatori per analisi quantitative dei sistemi energetici integrati. *Deliverable Ricerca di Sistema*. Rapporto RSE 21008460 https://www.rse-web.it/rapporti/sviluppo-strumenti-sw-e-simulatori.

[10] Migliavacca, G., Siface, D., Micheli, G., & Vespucci, M.T. (2023) Modelli matematici di Teoria dei Giochi applicati all'interazione fra sessioni con scansioni temporali differenti del mercato energetico. *Deliverable Ricerca di Sistema*. Rapporto RSE 23012876. Pending publication on the RSE website https://www.rse-web.it/rapporti/.

[11] Migliavacca, G., Micheli, G. & Vespucci, M.T. (2024) Sviluppo e applicazione di modelli matematici di Teoria dei Giochi all'analisi di possibilità di gaming nel contesto del mercato elettrico italiano. *Deliverable Ricerca di Sistema*. Rapporto RSE 24012510. Pending publication on the RSE website https://www.rse-web.it/rapporti/.

Articles Under Evaluation in International Journals with Peer-Review Process

[12] Consigli, G., Dentcheva, D., Maggioni, F. & Micheli, G. Asset liability management under sequential stochastic dominance constraints. **Status**: second round, after first revision in *Annals of Operations Research*. Preprint available at https://doi.org/10.48550/arXiv.2505.16486.

[13] Micheli, G., Vespucci, M.T., Migliavacca, G. & Siface, D., Equilibrium models to analyse the impact of different coordination schemes between Transmission System Operator and Distribution System Operators on market power in sequentially-cleared energy and ancillary services markets under load and renewable generation uncertainty. **Status**: under review in *European Journal of Operational Research*. Preprint available at https://doi.org/10.48550/arXiv.2505.15168.

[14] Micheli, G., Escudero, L., Maggioni, F. & Bayraksan, G., Multi-horizon optimization for domestic renewable energy system design under uncertainty. **Status**: under review in *European Journal of Operational Research*. Preprint available at https://doi.org/10.48550/arXiv.2505.15167.

[15] Micheli, G., Vespucci, M.T., Cortazzi, A. & Puglisi, C., A Stochastic Programming Model for Anticipative Planning of Integrated Electricity and Gas Systems with Bidirectional Energy Flows under Fuel and CO_2 Price Uncertainty. **Status**: under review in *Energy Systems*. Preprint available at https://doi.org/10.48550/arXiv.2505.15164.

Work in Progress

[16] Micheli, G., Vespucci, M.T., Migliavacca, G. & Siface, D., Assessing the Vulnerability of the Italian Electricity Market to Market Power: An Equilibrium Model.

[17] Bayraksan, G., Maggioni, F., Micheli, G. & Varagapriya, V., Bounds for multi-horizon stochastic optimization with application to power generation and transmission expansion planning.

[18] Maggioni, F., Micheli, G., Tomasgard, A. & Zhang, H., An Enhanced AI based L-shaped method for two-stage stochastic programs with application to energy.

REVIEWER

(2021 - now) **Reviewer** of the following journals:

- *Annals of Operations Research*;
- *Computational Management Science*;
- *Asia-Pacific Journal of Operational Research*;
- *Energy Systems*;
- *European Journal of Operational Research*;
- *Omega*.

RESEARCH PROJECTS

Research collaborator in the following projects, funded by external organizations:

- Title of the research project: *Attività di supporto e consulenza per la modellazione matematica dei mercati energetici mediante strumenti di ricerca operativa*. Institution: RSE - Ricerca sul Sistema Energetico - S.p.A., Milano. Principal investigator: Prof. Maria Teresa Vespucci. Year: 2018;
- Title of the research project: *Sviluppo di un modello matematico e del relativo software per la gestione di un impianto di trigenerazione*. Institution: DFC Economics, Milano. Principal investigator: Prof. Maria Teresa Vespucci. Year: 2018;
- Title of the research project: *Sviluppo di un modello matematico e del relativo software per la gestione di un impianto di trigenerazione – Parte 2*. Institution: DFC Economics, Milano. Principal investigator: Prof. Maria Teresa Vespucci. Year: 2019;
- Title of the research project: *Sviluppo di uno strumento di simulazione integrata dei sistemi elettrico e gas*. Institution: RSE - Ricerca sul Sistema Energetico - S.p.A., Milano. Principal investigator: Prof. Maria Teresa Vespucci. Year: 2020;
- Title of the research project: *Sviluppo di modelli matematici di teoria dei giochi applicati ai mercati energetici con diversa scadenza temporale*. Institution: RSE - Ricerca sul Sistema Energetico - S.p.A., Milano. Principal investigator: Prof. Maria Teresa Vespucci. Year: 2024.

He also contributed to analysis, design, and implementation activities in the framework of research collaborations with academic and industrial partners, with a focus on energy systems planning, market modeling, and optimization under uncertainty.

- **Generation and transmission expansion planning under uncertainty** *In collaboration with Prof. Maria Teresa Vespucci and CESI S.p.A.*
  - Development of two-stage stochastic programming models for investment planning in generation, transmission, and storage under price uncertainty;
  - Modeling of integrated electricity and gas systems with bi-directional energy flows using two-stage stochastic optimization;
  - Formulation of mixed-integer linear programming models for Demand Side Management investment planning;
  - Design of a solution algorithm based on Benders decomposition;
  - Application of clustering analysis to identify representative days for short-term power system operations;
  - Development of decision tree models to predict the ON/OFF status of thermal units;
  - Design of a web-based interface that enables users to perform scenario analysis and interact with optimization outputs in an intuitive and accessible way.
- **Operational planning of integrated electricity and gas systems with bi-directional energy flows** *In collaboration with Prof. Maria Teresa Vespucci and RSE S.p.A.*
  - Development of linear programming models under centralized coordination;
  - Design of equilibrium models for decentralized coordination schemes;

- Implementation of optimization models in GAMS;
- Analysis of national decarbonization scenarios.

- **Market power analysis in ancillary services provision from distributed energy resources** *In collaboration with Prof. Maria Teresa Vespucci and RSE S.p.A.*
  - Modeling of coordination schemes between Transmission System Operator and Distribution System Operators;
  - Development of game-theoretic models to evaluate market power;
  - Design of and implemented a Nash equilibrium algorithm;
  - Construction and analysis of representative case studies in GAMS.
- **Strategic behavior and competition in the Italian electricity markets** *In collaboration with Prof. Maria Teresa Vespucci and RSE S.p.A.*
  - Modeling of electricity market structures and strategic bidding;
  - Development of bilevel optimization models for market participants;
  - Design of heuristics for large-scale instances;
  - Construction and analysis a realistic dataset of the Italian system.
- **Optimal design of domestic renewable energy systems under uncertainty** *In collaboration with Prof. Francesca Maggioni, Prof. Laureano Escudero, and Prof. Güzin Bayraksan*
  - Modeling of systems with PV, batteries, and demand response;
  - Development of multi-horizon investment models;
  - Derivation of lower and upper bounds via relaxation, grouping, decomposition and rolling horizon methods;
  - Implementation of models in GAMS and collection of real input data.
- **Asset-liability management under stochastic dominance principles** *In collaboration with Prof. Francesca Maggioni, Prof. Darinka Dentcheva, and Prof. Giorgio Consigli*
  - Development of multistage stochastic programming models with risk measures and stochastic dominance constraints;
  - Design of decomposition methods;
  - Implementation of models in GAMS using realistic financial data from a European intermediary.
- **Bounds for multi-horizon stochastic optimization and applications to energy planning** *In collaboration with Prof. Francesca Maggioni and Prof. Güzin Bayraksan*
  - Proposal of scenario grouping and bounding techniques for large-scale models;
  - Development of multi-horizon expansion planning models for electricity and gas;
  - Implementation of GAMS-based optimization tools and rolling horizon heuristics;
  - Application of models to a realistic dataset of the Italian energy system.

CONFERENCE TALKS

He has participated and given talks at the following conferences:

1. (May 30, 2017) *Big Data Analytics: an aid to detection of non-technical losses in Power Utility*, Computational Management Science 2017, Bergamo, Italy.
2. (Feb. 4, 2019) *A deterministic model for generation and transmission expansion planning with high shares of renewables*, Energy Finance 2019, Milano, Italy.
3. (Mar. 26, 2019) *Generation and transmission expansion planning with high shares of renewables*, Computational Management Science 2019, Chemnitz, Germany.
4. (Jul. 29, 2019) *A two-stage stochastic programming approach for generation and transmission expansion planning with high shares of renewables*, International Conference on Stochastic Programming 2019, Trondheim, Norway.
5. (Sep. 4, 2019) *A two-stage stochastic programming approach for generation and transmission expansion planning with high shares of renewables*, Optimization and Data Science 2019, Genova, Italy.
6. (Feb. 5, 2020) *A two-stage stochastic MILP model for generation and transmission expansion planning with high shares of renewables*, AIROYoung 2020, Bolzano, Italy.
7. (Sep. 14, 2020) *Selecting and Initializing Representative Days for Generation and Transmission Expansion Planning with High Shares of Renewables*, 18th Cologne-Twente Workshop on Graphs and Combinatorial Optimization, Online.
8. (Feb. 22, 2021) *Long-Term Expansion Planning of Integrated Electricity and Gas Systems with High Shares of Renewables and Bi-Directional Energy Flows*, Energy Finance 2021, Online.
9. (Jul. 11, 2021) *A two-stage stochastic programming approach for the long-term expansion co-planning of electricity and gas systems with bi-directional energy conversion*, 31st European Conference on Operational Research, Online.
10. (Sep. 15, 2021) *Long-Term Expansion Planning of Integrated Electricity and Gas Systems with High Shares of Renewables and Bi-Directional Energy Flows*, International Ruhr Energy Conference 2021, Online.
11. (Sep. 14, 2021) *Expansion Co-Planning of Electricity and Gas Systems with High Shares of Renewables and Bi-Directional Energy Conversion under Fuel and Carbon Price Uncertainty*, Optimization and Data Science 2021, Online.
12. (Oct. 4, 2021) *A Medium Term Simulation Tool for the Integrated Gas and Power Systems – The Mathematical Formulation and an Application to a 2030 Italian Scenario*, AEIT International Annual Conference 2021, Online.
13. (Feb. 10, 2022) *Optimising Italian Electricity and Gas Sectors Coupling in a 2030 Decarbonized Energy System*, Energy Finance 2022, Napoli, Italy.
14. (Feb. 23, 2022) *Optimising Italian Electricity and Gas Sectors Coupling in a 2030 Decarbonized Energy System*, AIROYoung 2022, Roma, Italy.
15. (Jun. 29, 2022) *A Medium-Term Simulation Tool to Plan the Italian Electricity and Gas Sectors Coupling*, ECSO – CMS 2022, Venezia, Italy.

16. (Sep. 6, 2022) *A Medium-Term Simulation Tool to Optimise the Italian Electricity and Gas Sectors Coupling in a 2030 Decarbonized Energy System*, OR 2022: International Conference on Operations Research, Karlsruhe, Germany.
17. (Feb. 15, 2023) *Operational Equilibrium of Electricity and Natural Gas Systems with Bi-Directional Energy Flows*, AIROYoung 2023, Milano, Italy.
18. (Jul. 24, 2023) *Multistage ALM with Second-order Stochastic Dominance: Implementation and Computational Results*, ICSP 2023: International Conference on Stochastic Programming, Davis, California (USA). Invited talk.
19. (Sep. 4, 2023) *Optimising Italian electricity and gas sector coupling in a 2030 decarbonized energy system*, ODS 2023: International Conference on Optimization and Decision Science, Ischia (NA), Italy.
20. (Sep. 10, 2024) *Equilibrium models to analyze coordination architectures between Transmission System Operator and Distribution System Operators in two-stage energy markets under uncertainty*, ODS 2024: International Conference on Optimization and Decision Science, Badesi (SS), Italy. Invited talk.
21. (Feb. 26, 2025) AIROYoung 2025, Pavia, Italy. Participation without presentation.
22. (Jul. 30, 2025) *Multi-horizon optimization for domestic renewable energy system design under uncertainty*, ICSP 2025: International Conference on Stochastic Programming, Paris, France. Invited talk.
23. (Sep. 2, 2025) *Equilibrium models to analyse the impact of different coordination schemes between Transmission System Operator and Distribution System Operators on market power in sequentially-cleared energy and ancillary services markets under load and renewable generation uncertainty*, ODS 2025: International Conference on Optimization and Decision Science, Milano, Italy. Invited talk.

Research Periods Abroad for Scientific Collaborations

- (Oct. 2018 - Dec 2018) Instituto de Investigaciòn Tecnològica, Universidad Pontificia Comillas, Madrid. Research collaboration with: Prof. Andres Ramos.
- (Mar. 2019 - June 2019) Instituto de Investigaciòn Tecnològica, Universidad Pontificia Comillas, Madrid. Research collaboration with: Prof. Andres Ramos.

Teaching Activities

Bachelor's Degree Programs

- Teaching assistant of the following courses:
  - (a.y. 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024, 2024/2025) Operations Research (*Ricerca Operativa*, in Italian, *Laurea triennale in Ingegneria Gestionale*), Department of Management, Information and Production Engineering, University of Bergamo. 2018/2019 12 hours, 2019/2020 28 hours, 2020/2021 38 hours, 2021/2022 12 hours, 2022/2023 12 hours, 2023/2024 16 hours, 2024/2025 16 hours.
  - (a.y. 2022/2023, 2023/2024, 2024/2025) Operations Research (in English, *Laurea triennale in Ingegneria Gestionale*), Department of Management, Information and Production Engineering, University of Bergamo. 2022/2023 28 hours, 2023/2024 12 hours, 2024/2025 12 hours.

- Exam committee member of the following courses:
  - (a.y. 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024, 2024/2025) Operations Research (*Ricerca Operativa*, in Italian, *Laurea triennale in Ingegneria Gestionale*), Department of Management, Information and Production Engineering, University of Bergamo.
  - (a.y. 2022/2023, 2023/2024, 2024/2025) Operations Research (in English, *Laurea triennale in Ingegneria Gestionale*), Department of Management, Information and Production Engineering, University of Bergamo.

Master's Degree Programs

- Teaching assistant of the following courses:
  - (a.y. 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024, 2024/2025) Optimization Models and Algorithms (*Modelli e Algoritmi di Ottimizzazione*, in Italian, *Laurea magistrale in Ingegneria Informatica*), Department of Management, Information and Production Engineering, University of Bergamo. 2018/2019 12 hours, 2019/2020 21 hours, 2020/2021 20 hours, 2021/2022 8 hours, 2022/2023 18 hours, 2023/2024 18 hours, 2024/2025 18 hours.
  - (a.y. 2021/2022, 2022/2023, 2023/2024, 2024/2025) Optimization for Industrial Problems (in English, *Master's degree program in Management Engineering*), Department of Management, Information and Production Engineering, University of Bergamo, 12 hours per academic year.
  - (a.y. 2021/2022) Optimization (in English, *Laurea magistrale in Ingegneria Informatica*), Department of Management, Information and Production Engineering, University of Bergamo, 14 hours.
- Exam committee member of the following courses:
  - (a.y. 2018/2019, 2019/2020, 2020/2021, 2021/2022, 2022/2023, 2023/2024, 2024/2025) Optimization Models and Algorithms (*Modelli e Algoritmi di Ottimizzazione*, in Italian, *Laurea magistrale in Ingegneria Informatica*), Department of Management, Information and Production Engineering, University of Bergamo.
  - (a.y. 2021/2022, 2022/2023, 2023/2024, 2024/2025) Optimization for Industrial Problems (in English, *Master's degree program in Management Engineering*), Department of Management, Information and Production Engineering, University of Bergamo.
  - (a.y. 2021/2022) Optimization (in English, *Laurea magistrale in Ingegneria Informatica*), Department of Management, Information and Production Engineering, University of Bergamo.

SUPERVISION

He has served as co-advisor (*correlatore*) for 7 Bachelor's and Master's theses in optimization and data analysis, with a particular focus on applications in the energy sector, at the University of Bergamo.

SOFTWARE SKILLS

His software skills include a strong background in optimization and statistical computing, developed through both academic research and teaching activities. He has experience with a variety of programming environments, mathematical modeling languages, and data analysis tools.

- Excellent knowledge of GAMS (optimization modeling and solution);
- Excellent knowledge of Microsoft Windows (user and administrative tasks);
- Excellent knowledge of R (statistical computing and data analysis);
- Excellent knowledge of Microsoft Office (Word, Excel, PowerPoint, Outlook);
- Excellent knowledge of LaTeX;
- Good knowledge of Python (scientific computing and data handling);
- Good knowledge of MATLAB (numerical methods and simulation);
- Good knowledge of Weka (machine learning and data mining).

LANGUAGES

Italian (mother tongue), English (fluent).

MEMBERSHIP IN SOCIETIES

- AIRO (Italian Association of Operational Research);
- AIROYoung (the youth chapter of the Italian Association of Operational Research);
- EWGSO (EURO Working Group on Stochastic Optimization);
- SPS (Stochastic Programming Society);
- GNCS (Gruppo Nazionale per il Calcolo Scientifico);
- EFI (Energy Finance Italy).

Dichiarazione ai sensi del D.P.R. 445/2000 e del D.lgs. 196/2003
Il sottoscritto dichiara, ai sensi degli artt. 46 e 47 del D.P.R. 445/2000, che quanto sopra corrisponde al vero, consapevole delle sanzioni penali previste dall'art. 76 del medesimo decreto in caso di dichiarazioni mendaci. Dichiara inoltre di essere informato che i dati personali saranno trattati, anche con strumenti informatici, nell'ambito del procedimento per cui la presente dichiarazione è resa, ai sensi del D.lgs. 196/2003 e del Reg. UE 2016/679 (GDPR).

Bergamo, June 11, 2025