# ALICE RAFFAELE

September 04, 2025

Dep. of Information Engineering,
University of Padova, Italy

⋈ alice.raffaele@unipd.it
Github: aliceraffaele
Skype: alice raffaele



## Indexed research

ORCID https://orcid.org/0000-0003-1323-7544.

Scopus https://www.scopus.com/authid/detail.uri?authorId=57486817000.

Web of http://www.webofscience.com/wos/author/record/ABY-6928-2022.

Science

Google https://scholar.google.com/citations?user=v5U6Aq0AAAAJ&hl=it&oi=ao.

Scholar

## Current position

**Postdoctoral researcher** at the Department of Information Engineering of the University of Padova, Via Giovanni Gradenigo 6b, 35135 Padova, Italy.

#### Research interests

Mathematical programming, combinatorial optimization, routing problems under uncertainty, exact algorithms, meta-heuristics, operations research in education, enumeration problems.

## Research

Apr., 2025 - Postdoctoral researcher in Operations Research, University of Padova, Padova, Italy.

present Mathematical Programming, Combinatorial Optimization, Routing problems under uncertainty.

Advisor: Prof. Domenico Salvagnin

Apr., 2023 - Postdoctoral researcher in Operations Research, University of Calabria, Italy.

Mar, 2025 Mathematical Programming, Combinatorial Optimization, Routing problems under uncertainty. Advisors: Prof. Demetrio Laganà and Prof. Roberto Musmanno

Advisors. From Demetrio Lagaria and From Noberto Musinalino

Apr., 2022 - **Postdoctoral researcher in Operations Research**, *University of Verona*, Italy.

Mar, 2022 Mathematical Programming, Combinatorial Optimization, Algorithms, Temporal networks.

Advisor: Prof. Romeo Rizzi

Apr, 2021 - Research fellow in Operations Research, University of Verona, Italy.

Mar, 2022 Mathematical Programming, Combinatorial Optimization, Algorithms, Temporal networks.

Advisor: Prof. Romeo Rizzi

Nov, 2017 - Ph.D. in Mathematics (Operations Research), University of Trento and University of Verona,

Mar, 2022 Italy.

Combinatorial Optimization, Mathematical Programming, Algorithms.

Thesis: "From optimization to listing: theoretical advances in some enumeration problems".

Advisor: Prof. Romeo Rizzi Defense date: March 30, 2022.

#### **Visitings**

Apr, 2023 - **Visiting researcher**, *University of Padova*, Padova, Italy.

Mar, 2025 Mathematical Programming, Combinatorial Optimization, Routing problems under uncertainty.

Advisor: Prof. Roberto Roberti

- Oct, 2019 Visiting researcher, National Institute of Informatics, Tokyo, Japan.
  - Dec, 2019 Enumeration algorithms and listing problems.

Advisor: Prof. Takeaki Uno

- May, 2019 Visiting researcher, Université Paris-Est Marne-la-Vallée, Paris, France.
  - June, 2019 Bioinformatics and string algorithms (problems related to permutation patterns and graphs). Advisors: Prof. Stéphane Vialette and Prof. Laurent Bulteau
- Sep, 2015 Master's thesis intern, Université Laval, Québec City, Canada.
  - Jan, 2016 Vehicle routing problem and metaheuristics. Advisors: Prof. Jean-François Côté and Prof. Renata Mansini

# Research projects

Sep, 2025 - Proyectos de Generación de Conocimiento 2024, University of Seville, Spain.

present Role: Participant.

Other team members: Dr. Martina Fischetti (Principal Investigator; University of Seville, Spain), Prof. Roberto Roberti (University of Padova, Italy), and Dr. Thomas Hjort (Vattenfall, Denmark).

#### Education

- Jun, 2018 **24 CFU Teacher Training**, *University of Verona*, Italy.
  - Oct, 2018 7 modules in the areas of Pedagogy, Special pedagogy and Didactics of inclusion, Psychology, Anthropology, Teaching methodologies and technologies.
- Oct, 2013 Master of Science, Computer Science and Engineering, University of Brescia, Italy, 110/110

Mar, 2016 cum laude, March 16, 2016.

Thesis: "Time constrained Vehicle Routing Problem"

Advisor: Prof. Renata Mansini.

Optimization classes attended: Optimization algorithms by Prof. Renata Mansini.

Sep, 2010 - Bachelor of Science, Computer Science and Engineering, University of Brescia, Italy,

Oct, 2013 108/110, October 30, 2013.

Thesis: "La cifratura omomorfica" (i.e., "The homomorphic encryption")

Advisor: Prof. Luca Giuzzi.

Optimization classes attended: Operations research by Prof. Renata Mansini.

Sep, 2005 – High School Scientific Diploma, Liceo Scientifico Statale G. Galilei, Palazzolo sull'Oglio (BS),

Jun, 2010 Italy, 92/100, June, 2010.

Thesis: "Alla ricerca di una nuova identità — La figura della donna nella letteratura dalla Rivoluzione Francese in poi" (i.e., "Searching for a new identity – The role of women in literature, from the French Revolution and on").

## **Teaching**

#### Main teaching and responsibility

- Oct, 2022 Mathematics for Decisions (contract professor), University of Verona.
  - Feb. 2024 Master's degree in *Mathematics* (English, 48 hours, classroom), average student evaluation: 3.55/5.

## **Teaching**

- Jan, 2023 Advances in Operations Research: Mathematical Programming (lecturer), University of
  - Feb, 2023 Trento.
    - Ph.D. course in *Mathematics* (English, 12 hours, Zoom).
- Mar, 2022 Discrete Optimization and Decision Making (contract professor), University of Verona.
  - Mar, 2023 Master's degree in *Data Science* (English, 32 hours, classroom + Zoom), average student evaluation: 3.41/5.
- Mar, 2022 Operations Research (contract professor), University of Verona.
  - Jun, 2022 Bachelor's degree in *Applied Mathematics* (Italian, 8 hours, classroom + Zoom, average student evaluation: 3.75/5).

- Oct, 2021 Mathematics for Decisions (contract professor), University of Verona.
  - Jan, 2022 Master's degree in *Mathematics* (English, 8 hours, classroom + Zoom, average student evaluation: 3.5/5).

#### Teaching assistant

- Oct, 2020 Mathematics for Decisions, University of Verona.
  - Jan, 2021 Master's degree in *Mathematics* (English, 24 hours, classroom + Zoom).
- Mar, 2020 **Operations Research**, *University of Verona*.
  - Jun, 2020 Bachelor's degree in Applied Mathematics (Italian, 24 hours, Zoom).
- Mar, 2020 Mathematics for Decisions, University of Verona.
  - Jun, 2020 Master's degree in *Mathematics* (English, 24 hours, Zoom).
- Mar, 2019 **Operations Research**, *University of Verona*.
  - Jun, 2019 Bachelor's degree in Applied Mathematics (Italian, 24 hours, classroom).
- Mar, 2018 Operations Research, University of Verona.
  - Jun, 2018 Bachelor's degree in Applied Mathematics (Italian, 24 hours, classroom).

#### Teaching experimentations in primary and higher secondary schools

Nov, 2024 Science 4 All (trainer), University of Padova.

Partecipation to "Informatica senza computer", activities and games carried out by Prof. Francesco Silvestri (University of Padova) to introduce the bases of informatics and algorithm development to two Grade 4 classes. For more details, see http://scuole.science4all.it/attivita/informatica-senza-computer/.

- Oct, 2022 ROAR III (creator, designer, and experimenter), IIS Antonietti, Iseo, Brescia, Italy.
  - Jan, 2023 Path for Transversal Skills and Orientation in collaboration with Prof. Marinella Picchi, Dr. Alessandro Gobbi (University of Brescia), Dr. Eugenia Taranto and Dr. Gabriella Colajanni (University of Catania). Third part of a three-year project-work to introduce operations research to Grades 10–12. Focus on implementation and resolution of optimization problems by means of Python and the library PuLP. For further details, see https://github.com/aliceraffaele/ROAR.
- Jan, 2022 ROAR II (creator, designer, and experimenter), IIS Antonietti, Iseo, Brescia, Italy.
  - Apr, 2022 Path for Transversal Skills and Orientation in collaboration with Prof. Marinella Picchi, Dr. Alessandro Gobbi (University of Brescia), Dr. Eugenia Taranto and Dr. Gabriella Colajanni (University of Catania). Second part of a three-year project-work to introduce operations research to Grades 10–12. Focus on graph theory and network applications. For further details, see https://github.com/aliceraffaele/ROAR.
- Mar, 2021 **ROAR I (creator, designer, and experimenter)**, IIS Antonietti, Iseo, Brescia, Italy.
- May, 2021 Path for Transversal Skills and Orientation in collaboration with Prof. Marinella Picchi, Dr. Alessandro Gobbi (University of Brescia), Dr. Eugenia Taranto and Dr. Gabriella Colajanni (University of Catania). First part of a three-year project-work to introduce operations research to Grades 10–12. Focus on mathematical modelling, linear and integer programming. For further details, see https://github.com/aliceraffaele/ROAR.
- Sep, 2019 KidsUniversity (trainer), University of Verona.

Activities for classes of primary and secondary schools (8 hours).

- Nov, 2018 **KidsUniversity (trainer)**, *University of Verona*.
  - Dec, 2018 *Problem solving in primary schools.* Mathematics and informatics activities in thirteen classes in three primary schools in Bovolone and Dossobuono, Verona (26 hours).
  - Sep, 2018 **KidsUniversity (trainer)**, *University of Verona*. Activities for classes of primary and secondary schools (14 hours).

#### Mini-courses and seminars

- Nov, 2017 A hands-on tutorial on LP and ILP modeling (lecturer), University of Verona.
  - Dec, 2017 Mini-course in the Master's degree in Mathematics (20 hours).
  - Apr, 2016 Adaptive Large Neighborhood Search (ALNS) (lecturer), University of Brescia.

    Tutorial lecture in the Optimization Algorithms course by Prof. Renata Mansini (2 hours).

#### Memberships

Oct, 2021 – Consiglio del Corso di Studio delle Lauree Triennali e Magistrali in Matematica, *University* Mar, 2024 of Verona.

Department of Computer Science.

#### Advising

Jul, 2024 - Antonino Andrea Carè (co-advisor), University of Padova.

Mar, 2025 Master's thesis in *Computer Engineering*.

Advisor: Prof. Roberto Roberti (University of Padova).

Nov, 2023 - Bernis Çolakoğlu (co-advisor), University of Padova.

Oct, 2024 Master's thesis in *ICT for internet and multimedia*.

Advisor: Prof. Roberto Roberti (University of Padova).

Jul, 2019 – Enrica Pini (co-advisor), University of Verona.

Mar, 2020 Master's thesis in Mathematics.

Advisor: Prof. Romeo Rizzi.

#### Publications

#### Journal articles

- Alice Raffaele and Romeo Rizzi. New theoretical results on the monotone boolean duality and the monotone boolean dualization problems. *Discrete Applied Mathematics*, volume 361, pages 347–369. Elsevier, 2025.
- 2024 **Alice Raffaele**, Romeo Rizzi, and Takeaki Uno. Listing the bonds of a graph in  $\tilde{O}(n)$ -delay. Discrete Applied Mathematics, volume 348, pages 105–121, May 2024.
- 2024 Jean-François Côté, Renata Mansini, and **Alice Raffaele**. Multi-Period Time Window Assignment for Attended Home Delivery. *European Journal of Operational Research*, January 2024.
- 2024 Gabriella Colajanni, Alessandro Gobbi, Marinella Picchi, Alice Raffaele, and Eugenia Taranto. An Operations Research–Based Teaching Unit for Grade 12: The ROAR Experience, Part III. INFORMS Transactions on Education. INFORMS, 2024.
- 2023 Matteo Zavatteri, **Alice Raffaele**, Dario Ostuni, and Romeo Rizzi. An Interdisciplinary Experimental Evaluation on the Disjunctive Temporal Problem. *Constraints*, 2023.
- 2023 **Alice Raffaele** and Matteo Zavatteri. Reducing the number of disjuncts in DTPs. *Information and Computation*, volume 293, page 105048. Elsevier, 2023.
- 2023 Gabriella Colajanni, Alessandro Gobbi, Marinella Picchi, Alice Raffaele, and Eugenia Taranto. An Operations Research–Based Teaching Unit for Grade 11: The ROAR Experience, Part II. INFORMS Transactions on Education. INFORMS, 2023.
- 2022 Eugenia Taranto, Gabriella Colajanni, Alessandro Gobbi, Marinella Picchi, and **Alice Raffaele**. Fostering students' modelling and problem-solving skills through operations research, digital technologies and collaborative learning. *International Journal of Mathematical Education in Science and Technology*, pages 1–42. Taylor & Francis, 2022.
- 2022 Gabriella Colajanni, Alessandro Gobbi, Marinella Picchi, Alice Raffaele, and Eugenia Taranto. An Operations Research–Based Teaching Unit for Grade 10: The ROAR Experience, Part I. INFORMS Transactions on Education. INFORMS, 2022.
- 2021 **Alice Raffaele** and Alessandro Gobbi. Teaching Operations Research Before University: A Focus on Grades 9–12. *SN Operations Research Forum*, volume 2, page 13, 2021.
- 2021 **Alice Raffaele**. Becoming Visible: Why We Should be Better Communicators Now. *SN Operations Research Forum*, volume 2, page 7, 2021.
- 2021 Lavinia Amorosi, Rossana Cavagnini, Veronica Dal Sasso, Martina Fischetti, Valentina Morandi, and Alice Raffaele. Women Just Wanna Have OR: Young Researchers Interview Expert Researchers. SN Operations Research Forum, volume 2, page 2, 2021.

2020 Rossana Cavagnini, Veronica Dal Sasso, Valentina Morandi, and **Alice Raffaele**. How to Organize an OR Workshop: the AIROYoung Experience. *SN Operations Research Forum*, volume 1, page 34, 2020.

#### Book chapters

Alice Raffaele, Matteo Zavatteri, Fabio Bazzoli, Marco Gussago, and Romeo Rizzi. A Two-Phase Approach to Evaluate and Optimize an Interlibrary Loan Service: The Case Study of Provincia di Brescia. In Matteo Cosmi, Lorenzo Peirano, Alice Raffaele, and Marcella Samà, editors, Operations Research and Data Science in Public Services, pages 17–33, Cham, 2023. Springer International Publishing.

#### In-conference proceedings

2021 Dario Ostuni, **Alice Raffaele**, Romeo Rizzi, and Matteo Zavatteri. Faster and Better Simple Temporal Problems. *Proceedings of the 35th AAAI Conference on Artificial Intelligence*, 2021.

#### Technical reports

- 2019 Jean-François Côté, Renata Mansini, and **Alice Raffaele**. *Tactical Time Window Management in Attended Home Delivery*. CIRRELT, 2019.
- 2019 Dusan Bikov, Raul Kangro, Harald Kitzmann, Petre Lameski, **Alice Raffaele**, and Zlatko Varbanov. Usage based insurance. European Study Group with Industry ESGI 151, 2019.

#### Magazines and newsletters

- Alice Raffaele and Anand Subramanian. If Dantzig Had a Sister. *OR/MS Today*, February 2024. https://pubsonline.informs.org/do/10.1287/orms.2024.01.06/full.
- 2024 Alice Raffaele. On Surnames, Symbols and Goals. EURO Gold Medal 2024 awarded to Maria Grazia Speranza. *OR/MS Today*, September 2024. https://pubsonline.informs.org/do/10.1287/orms.2024.03.05/full/.
- 2023 **Alice Raffaele** and Anand Subramanian. Revealing a Less-Traveled Road. *OR/MS To-day*, September 2023. https://pubsonline.informs.org/do/10.1287/orms.2023.03.03/full.

#### Submitted works

Alice Raffaele, Demetrio Laganà, and Roberto Roberti. Robust Policies for a Multi-Period Fleet Sizing Problem with Demand Uncertainty. August 2024. May 2025 (first revision).

#### Talks

#### Conferences

- Sep, 2025 The Multimodal Urban Air Mobility Problem with Synchronization Constraints at the International Conference on Optimization and Decision Science, AIRO-ODS 2025, September 03, 2025, Milan, Italy
- Sep, 2025 On communicating Operations Research: Raising awareness and becoming visible at the International Conference on Optimization and Decision Science, AIRO–ODS 2025, September 02, 2025, Milan, Italy.
- Jun, 2025 Last-mile Delivery with Autonomous Robots and Public Transport Lines at the EURO Working Group on Vehicle Routing and Logistics Optimization, VeRoLog 2025, June 16–19 June, 2025 Trento, Italy (abstract accepted).
- Sep, 2024 Robust Policies for a Multi-Period Fleet Sizing Problem with Demand Uncertainty at the 11th INFORMS Transportation Science and Logistics Society Workshop TSL 2024, September 26, 2024, Nantes, France.

- Jul, 2024 Robust Policies for a Multi-Stage Assignment Problem under Demand Uncertainty at the EURO 2024 international conference, July 01, 2024, Copenhagen, Denmark.
- Jul, 2024 The ROAR project: How to improve Grade 10-12 interest and motivation in Mathematics through a learning path based on Operations Research at the EURO 2024 international conference, July 01, 2024, Copenhagen, Denmark.
- May, 2024 Robust Policies for a Multi-Stage Assignment Problem under Demand Uncertainty at the ODYSSEUS 2024 international conference, May 19–24, 2024, Carmona, Spain.
- Feb, 2024 Robust Policies for a Multi-Period Assignment Problem under Demand Uncertainty at the 8th AIROYoung Workshop Emerging technologies for decision support systems and innovative optimization paradigms (8AYW), February 14–16, 2024, Rende, Italy.
- Sep, 2023 A two-phase approach to evaluate and optimize an interlibrary loan service: the case study of Provincia di Brescia at the International Conference on Optimization and Decision Science, AIRO-ODS 2023, September 04–07, 2023, Ischia, Italy.
- Sep, 2023 An Operation Research based Didactic Unit for Grade 12: The ROAR Experience, Part III at the International Conference on Optimization and Decision Science, AIRO-ODS 2023, September 04–07, 2023, Ischia, Italy.
- Nov, 2022 ROAR: How to improve Grade 10-12 interest and motivation in mathematics through a learning path based on Operations Research at the 4th Scientix International Conference, November 18-19, 2022, Online.
- Sep, 2022 On Vertex Enumeration and Hypergraph Dualization: relevance in combinatorial optimization and a new decomposition approach at the International Conference on Optimization and Decision Science, AIRO-ODS 2022, August 30 September 02, 2022, Florence, Italy.
- Feb, 2022 The case study of Province of Brescia: analysis, evaluation, and improvement of an interlibrary loan service at the 6th AIROYoung Workshop Operations Research and Data Science in Public Services (6AYW), February 23–25, 2022, Rome (hybrid), Italy.
- Sep, 2021 An Operation Research based Didactic Unit for Grade 10: The ROAR Experience, Part I at the International Conference on Optimization and Decision Science, AIRO-ODS 2021, September 14–17, 2021, Rome, Italy.
- Feb, 2021 Teaching Operations Research Before University: a focus on Grades 9–12 at the 5th AIROYoung Workshop Optimization and Data Science: Trends and Applications (4AYW), February 10–12, 2021, Naples (virtual), Italy.
- Dec, 2020 Faster listing of bonds based on biconnectivity at the 4th International Workshop on Enumeration Problems & Applications, WEPA 2020, December 6–10, 2020, Haifa (virtual), Israel.
- Oct, 2019 A new decomposition for the Monotone Boolean Duality problem at the 3rd International Workshop on Enumeration Problems & Applications, WEPA 2019, October 28–31, 2019, Awaji Island, Japan.
- Sep, 2019 Teaching Operations Research before University at the International Conference on Optimization and Decision Science, AIRO–ODS 2019, September 4–7, 2019, Genova, Italy.
- Nov, 2018 A Joint Generation approach for the Vertex Enumeration Problem at the 2nd International Workshop on Enumeration Problems & Applications, WEPA 2018, November 4–8, 2018, Pisa, Italy.
- Sep, 2016 The Stochastic Multi-period Time Windows Assignment Problem at the 46th Annual Conference of the Italian Operations Research Society, September 6–9, 2016, Trieste, Italy.

  Invited
- Jun, 2024 Robust Policies for a Multi-Stage Assignment Problem under Demand Uncertainty at the GAMMA24 workshop, June 24, 2024, Verona, Italy.

- Jun, 2023 Exploring Innovative Approaches and Educational Opportunities to Decision Making, third roundtable of the 1st DSA Summer International Conference, with Alvaro Garcia Sanchez and Giovanni Righini, June 9, 2023, Milan, Italy.
- Oct, 2022 Introduction to graph theory: optimization problems and applications to social networks for the OPS4Math project Optimization and Problem Solving for Teaching of Mathematics, October 4, 2022, Naples, Italy.
- Oct, 2022 Solving optimization problem with GeoGebra for the OPS4Math project Optimization and Problem Solving for Teaching of Mathematics, October 4, 2022, Naples, Italy.
- Nov, 2019 *A new decomposition for the Monotone Boolean Duality problem* at RIMS, Kyoto University, November 28, 2019, Kyoto, Japan.

#### **Posters**

Feb, 2021 Faster and Better Simple Temporal Problems, at the 35th AAAI Conference on Artificial Intelligence, February, 2–9, 2021, Online.

## Courses, schools, seminars and workshops

- Jun, 2025 1st VeRoLog PhD School, June 13–16, 2025, Trento, Italy (to be attended).
- Feb, 2025 9th AIROYoung Workshop Shaping a Sustainable Future in the Era of Big Data (9AYW), February 26–28, 2025, Pavia, Italy.
- Sep, 2024 *PhD School: Optimizing Transportation and Logistics under Uncertainty.* September 22–24, 2024, Nantes, France.
- Jun, 2024 GAMMA24 General Advances in Mathematics and Models for Applications, June, 24, 2024, Verona, Italy.
- Feb, 2024 061652 Robust Optimization. Lecturer: Prof. Erick Delage (HEC Montréal). February, 27 -
  - Mar, 2024 March, 08, 2024 (27 hours), Milan, Italy.
  - Feb, 2024 8th AIROYoung Workshop Emerging technologies for decision support systems and innovative optimization paradigms (8AYW), February 14–16, 2024, Rende, Italy.
  - Feb, 2023 7th AIROYoung Workshop Operations Research Beyond Frontier (7AYW), February 15–17, 2023, Milan, Italy.
  - Feb, 2022 6th AIROYoung Workshop: Operations Research and Data Science in Public Services (6AYW), February 23–23, 2022, Rome (hybrid), Italy.
  - Feb, 2021 AIRO PhD School 2021 & 5th AIROYoung Workshop Optimization and Data Science: Trends and Applications (5AYW), February 8–12, 2021, Naples (virtual), Italy.
  - Feb, 2020 4th AIROYoung Workshop: New Advances in Optimization, Machine Learning and Data Science (4AYW), February 5–7, 2020, Bozen, Italy.
  - Dec, 2020 2nd Workshop On Graphs and Geometric Algorithms (WOGGA2), National Institute of Informatics, Tokyo, Japan, December 16–18, 2019 (20 hours).
- Mar, 2019 3rd AIROyoung Workshop and 1st AIROYoung PhD School: Advanced Methods in Optimization and Data Science (3AYW), Sapienza University of Rome, Department of Statistics, Rome, Italy, March 26–29 (24 hours).
- Mar, 2019 2nd conference of the EURO Working Group on the Practice of Operations Research, Bologna, Italy, March 11–12, 2019 (16 hours).
- Feb, 2019 First Estonian Study Group with Industry (ESGI 151), University of Tartu, Estonia, February 4–8, 2019 (40 hours).
- Sep, 2018 Modeling Week on Data Driven Decision Making and Optimization (D3EMO), Copenhagen Business School, Denmark, September 03–07, 2018 (40 hours).
- Jul, 2018 *Metodologie di osservazione etnografica in aula e nella scuola*. Lecturer: Prof. Elisa Bellato (University of Verona). Verona, July 24, 30–31, 2018 (18 hours).

- Jul, 2018 *Elementi di didattica generale*. Lecturer: Prof. Giuseppina Messetti (University of Verona). Verona, July 20–21, 23, 26–28, 2018 (36 hours).
- Jul, 2018 *Teorie della scuola e della formazione*. Lecturer: Prof. Daniele Loro (University of Verona). Verona, July 16–18, 2018 (18 hours).
- Jul, 2018 *Pedagogia e didattica dell'inclusione* Lecturer: Prof. Angelo Lascioli (University of Verona). Verona, July 11–13, 2018 (18 hours).
- Jul, 2018 *Psicologia sociale.* Lecturer: Prof. Sabrina Berlanda (University of Verona). Verona, July 10, July 19 and August 01, 2018 (18 hours)
- Jun, 2018 Psicologia dell'apprendimento scolastico. Lecturer: Prof. Laura Fontecedro (University of Verona).
  - Jul, 2018 Verona, June 28–29 and July 02, 2018 (18 hours).
  - Jun, 2018 Storia e attuale ordinamento delle istituzioni scolastiche. Lecturer: Prof. Mario Gecchele (University of Verona). Verona, June 25–27, 2018 (18 hours).
  - Jun, 2018 The Applications of Linear Programming, University of Trento, Italy, June 18–19, 2018 (8 hours).
  - Jun, 2018 School on Graph Theory (SGT 2018), LIRMM, Sète, France, June 11-15, 2018 (36 hours).
- May, 2018 International Spring School on Integrated Operational Problems (SSIOP), Université de Troyes, France, May 14–16, 2018 (20 hours).
- Apr, 2018 Colouring, Flows and Decompositions of Graphs. Lecturer: Edita Macajova (Comenius University, Bratislava, Slovacchia), University of Verona, Italy, April 17–26 2018 (12 hours).
- Apr, 2018 *Introduction to Quantum Information*. Lecturer: Dr. Davide Pastorello. Trento, April May May, 2018 (20 hours).
  - Mar, 2018 Neural Networks for Time Series Analysis. Lecturer: Oleksandr Honchar (University of Verona),
- University of Verona, Italy, March 21–29, 2018 (8 hours).
- Feb, 2018 Stochastic Analysis: From Population Dynamics to Finance. Lecturers: Prof. Luca Di Persio May, 2018 (University of Verona), Prof. Simone Scotti (University Paris Diderot, France) and Prof. Zenghu Liu (Beijing Normal University, China), Verona, Italy, February May 2018 (60 hours).
- Jan, 2018 *Mathematical Programming*. Lecturer: Prof. Romeo Rizzi. Trento, January 22 February 02, Feb, 2018 (20 hours).
  - Jan, 2018 Introduction to SageMath. Lecturer: prof. Péter Burcsi (Faculty of Informatics, Eötvös Loránd University, Budapest), University of Verona, Italy, January 22–25, 2018 (8 hours).

## Session chairs

- Sep, 2025 Communicating mathematics and O.R. (MaddMaths! at the International Conference on Optimization and Decision Science, AIRO–ODS 2025, September 02, 2025, Milan, Italy.
- Jul, 2024 Vehicle Routing Under Uncertainty 1 in the "VeRoLog Vehicle Routing and Logistics" stream, 33rd European Conference on Operational Research (EURO2024), July 1, 2024, Copenhagen, Denmark.
- Jul, 2024 Experienced Routes for the Teaching Students' Problem in the "OR Education" stream, 33rd European Conference on Operational Research (EURO2024), July 1, 2024, Copenhagen, Denmark.
- Sep, 2023 AIROYoung Dissertation Award 2023 (with Veronica Dal Sasso, Giusy Macrina, and Lorenzo Peirano) at the International Conference on Optimization and Decision Science, AIRO-ODS 2023, September 07, 2023, Ischia, Italy.
- Sep, 2023 Teaching and Education (with Claudio Sterle) at the International Conference on Optimization and Decision Science, AIRO–ODS 2023, September 05, 2023, Ischia, Italy.
- Sep, 2022 Best AIROYoung Dissertation 2022 at the International Conference on Optimization and Decision Science, AIRO-ODS 2022, September 02, 2022, Florence, Italy.
- Sep, 2022 Discrete Optimization III at the International Conference on Optimization and Decision Science, AIRO–ODS 2022, September 01, 2022, Florence, Italy.

Sep, 2021 OR IN. . . FIVE MINUTES – A pitch-talk session (with Lorenzo Peirano) at the International Conference on Optimization and Decision Science, AIRO–ODS 2021, September 15, 2021, Rome, Italy.

# Industrial experience

- Nov, 2016 IT manager, Edelweiss Energia S.p.A., Sarnico, Bergamo, Italy.
  - Oct, 2017 Apprenticeship in collaboration with University of Brescia and the Department of Information Engineering. Computer science engineer and system administrator, developer of some internal software, report manager, technical support to other areas of the company.
- May, 2016 Internship, Edelweiss Energia S.p.A., Sarnico (Bergamo), Italy.
  - Oct, 2016 Implementation of ETL scripts to automatic download and load data from several sources; learning of the main company tools and software; technical support to other areas of the company.

Collaborations with companies

- May, 2019 **Consultant**, *Provincia di Brescia*, *Brescia*, Italy, Libraries Office.
  - Aug, 2023
- Oct, 2018 Consultant, Consorzio Agrario del Nordest, Verona, Italy.
- Mar, 2019
- Oct, 2017 Consultant, InfogestWeb s.r.l., Verona, Italy.
- May, 2020 Joint Project 2018, granted by the University of Verona on the project entitled DAVIDE (Development of Algorithms to Verify Infractions of Driving European laws). Principal Investigator: Prof. Romeo Rizzi.

#### Awards and honors

- Dec, 2024 Selected as **one of the 12 YoungWomen4OR 2024**, an initiative by the EURO WISDOM Forum. For more details, see https://www.euro-online.org/web/pages/1654/wisdom.
- Jul, 2022 Selected as **one of the 104 participants** (among 730+ applications) of the first edition of **EU TalentOn**, an initiative by European Commission addressed to early career researchers between 21 and 35 years old.
- Sep, 2016 Awarded of the *AIRO Prize* for the best master thesis related to applications during the 46th Annual Conference of the Italian Operations Research Society in Trieste, Italy, September 6–9, 2016.
- May, 2005 Awarded of the **Journalist for a day** prize in a national writing contest organized by the National Circuit of School Journalism AlboScuole in Rome, Italy, May 20, 2005.

#### Grants

- Jun, 2023 Recipient of a **conference grant** funded by **Gruppo Nazionale per il Calcolo Scientifico (GNCS-INdAM)** to attend the *International Conference on Optimization and Decision Science*, AIRO–ODS 2023, September 04–07, 2023, Ischia, Italy. 300 €.
- Sep, 2022 **Travel expenses and accommodation** funded by **European Commission** to participate to the first edition of **EU TalentOn** in Leiden, The Netherlands, September 14–18, 2022.
- Jan, 2022 Recipient of a **conference grant** funded by **Gruppo Nazionale per il Calcolo Scientifico (GNCS-INdAM)** to attend the *International Conference on Optimization and Decision Science*, AIRO–ODS 2022, August 30 − September 02, 2022, Florence, Italy. 500 €.
- Feb, 2019 Recipient of Cost Action TD1409 Travel Grants to attend the *First Estonian Study Group* with Industry (ESGI 151), University of Tartu, Estonia, February 4–8, 2019. 384.98 €.
- Sep, 2018 Recipient of **COST Action TD1409 Travel Grants** to attend the *Modeling Week on Data Driven Decision Making and Optimization (D3EMO)*, Copenhagen Business School, Denmark, September 3–7, 2018. 400 €.
- Nov, 2017 Recipient of the **Italian PhD Scholarship** to attend the PhD course in Mathematics jointly Mar, 2021 organized by University of Trento and University of Verona. 16350 €/year.

- Sep, 2015 Recipient of the **Scholarship of Excellence** funded by Université Laval, Québec, Canada. 4000 Jan, 2016 CAD.
- Sep, 2015 Recipient of the **Thesis Abroad Scholarship** funded by University of Brescia to develop my Jan, 2016 master's thesis at Université Laval, Québec, Canada. 1500 €.

# Positions of responsibility

- May, 2024 **Representative** of AIRO in the MaddMaths! ETS association's first board. present
- Feb, 2021 **Joint coordinator** of AIROYoung (Young Chapter of the Italian Operations Research Society). Feb, 2024
- Mar, 2019 **Social media manager and web curator** of AIROYoung. Feb, 2021

# Organizing committees

- Feb, 2026 10th AIROYoung Workshop and Ph.D. School, University of Padua, Italy, February 2026 (exact dates TBA)
- Feb, 2020 4th AIROYoung Workshop, Free University of Bozen, Italy, February 5-7, 2020

# Program committees

- 2025 International Conference on Optimization and Decision Science (ODS2025), September 01–04, 2025, Milan, Italy.
- 2024 International Conference on Optimization and Decision Science (ODS2024), September 08–12, 2024, Badesi, Sardinia, Italy.
- 2024 8th AIROYoung Workshop Emerging technologies for decision support systems and innovative optimization paradigms (8AYW), February 14–16, 2024, Rende, Italy.
- 2023 7th AIROYoung Workshop Operations Research Beyond Frontier (7AYW), February 15–17, 2023, Milan, Italy.
- 2022 International Conference on Optimization and Decision Science (ODS2022), August 30 September 02, 2022, Florence, Italy.
- 2022 6th AIROYoung Workshop Operations Research and Data Science in Public Services (6AYW), February 23–25, 2022, Rome (hybrid), Italy.

# Peer reviewing activity

2021 – AIRO Springer Series, Discrete Applied Mathematics, European Journal of Operational Represent search, Heliyon, International Journal of Mathematical Education in Science and Technology, INFORMS Transactions on Education, International Transactions in Operational Research, Networks, Operations Research Forum, The Art of Discrete and Applied Mathematics, Transportation Science.

# Editorial activity

2022 – 2023 **Special Volume editor** (with Matteo Cosmi, Lorenzo Peirano, and Marcella Samà) of the book entitled *Operations Research and Data Science in Public Services* in the AIRO Springer Series.

#### Memberships

Dec, 2024 – Member of **VeRoLog** (EURO Working Group on Vehicle Routing and Logistics Optimization). present

- Apr, 2022 Member of **OPSTeaM** (Mathematics Teaching Chapter of the Italian Operations Research present Society).
- Jan, 2021 Member of **GNCS-INdAM** (National Group for Numerical Analysis Gruppo Nazionale per il present Calcolo Scientifico dell'Istituto Nazionale di Alta Matematica, Sezione Fondamenti di Informatica e Sistemi Informatici).
- Dec, 2020 Member of **AAAI** (Association of the Advancement of Artificial Intelligence). present
- Mar, 2019 Member of **AIROYoung** (Young Chapter of the Italian Operations Research Society). present
- Sep, 2016 Member of **AIRO** (Italian Operations Research Society). present

## Languages

- Italian Mother tongue
- English Professional proficiency
- French Elementary proficiency

# Computer skills

- Programming C, C++, Python, Java, SQL, C#, HTML, Markdown, CSS, PHP, Javascript Languages
- Technologies AMPL, AndroidStudio, Eclipse, Gurobi, LaTeX, MATLAB, Microsoft Office (Word, Excel, Outlook, Powerpoint, Publisher), Microsoft SQL Server, Microsoft Visual Studio, Pentaho Kettle, VMware vSphere, SageMath, SAP Business Objects Desktop Intelligence, Webratio Platform

#### Certifications

- Apr, 2017 EPEX Spot Certification
- Jul, 2016 State Professional Qualifying Examination in Engineering (Esame di Stato per l'abilitazione alla professione di Ingegnere Sez. A, Ingegneria dell'Informazione)
- May, 2009 PET B1 Preliminary
- May, 2008 ECDL license

## Volunteering

- Aug, 2021 MaddMaths! (collaborator and writer).
  - present Main Italian platform for the dissemination of mathematics.

Websites:

https://maddmaths.simai.eu

https://aliceraffaele.github.io/communication/maddmaths/

Dec, 2018 – **Math4Kids (creator and trainer)**, *Biblioteca comunale Fausto Sabeo*, Chiari, Brescia, Italy. present Websites:

https://opac.provincia.brescia.it/en/library/chiari/math-4-kids

https://aliceraffaele.github.io/communication/math4kids/

Jan, 2017 – "I MiseraLibri" bookclub (founder and coordinator), Biblioteca comunale Fausto Sabeo, Feb, 2024 Chiari, Brescia, Italy.

Facebook: https://www.facebook.com/groups/GruppoDiLetturaChiari Google Maps:

4th National Meeting of Italian Bookclubs (creator and member of the organizing committee), Chiari, Brescia, Italy.  Organizer of four Zoom meetings to discuss several typologies and aspects of Italian bookclubs and chair of two of them. Organizer and chair of the 4th National Meeting of Italian Bookclubs, held on June 26th, 2021, at Villa Mazzotti in Chiari (Brescia, Italy).
trattamento dei dati personali contenuti nel mio curriculum vitae in base al D. Lgs. 196/2003, le modifiche introdotte dal il D. Lgs. 101/2018, e all'art. 13 del GDPR (Regolamento UE

2016/679).