

ALICE RAFFAELE

January 25, 2026

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Indexed research

- ORCID <https://orcid.org/0000-0003-1323-7544>.
- Scopus <https://www.scopus.com/authid/detail.uri?authorId=57486817000>.
- Web of Science <http://www.webofscience.com/wos/author/record/ABY-6928-2022>.
- Google Scholar <https://scholar.google.com/citations?user=v5U6Aq0AAAAJ&hl=it&oi=ao>.

Current position

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

Research interests

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

Research appointments

- 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
- 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*, Italy.
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.

Visiting

- 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

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, 108/110
 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”).

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).

Publications

Journal articles

- 2025 **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.
- 2025 **Alice Raffaele**, Demetrio Laganà, and Roberto Roberti. Robust policies for a multi-period fleet sizing problem with demand uncertainty. *European Journal of Operational Research*. 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](#)

- 2023 **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.

[Books](#)

- 2025 **Alice Raffaele**. *Teoremi della dualità in programmazione lineare*, volume 37 of *Rivoluzioni matematiche. I grandi Teoremi da Pitagora a Nash*. Le Scienze, October 2025.

[Magazines](#)

- 2025 **Alice Raffaele** and Anand Subramanian. Primal-Dual Partnerships. The interior of successful O.R. collaborations. *OR/MS Today*, September 2025. <https://pubsonline.informs.org/do/10.1287/orms.2025.03.06/full/>.

- 2025 Gabriella Colajanni, Alessandro Gobbi, Marinella Picchi, **Alice Raffaele**, and Eugenia Taranto. Ricerca operativa: attività di modellizzazione e problem-solving a scuola per minimizzare la distanza con la realtà. *Nuova Lettera Matematica*, volume 8, pages 86–100, 2025.
- 2024 **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 Today*, September 2023. <https://pubsonline.informs.org/do/10.1287/orms.2023.03.03/full>.
- 2022 Marco Menale and **Alice Raffaele**. Recensione del libro “Uno, due, tre, molti, come la matematica ha creato la civiltà”, di Michael Brooks. *Archimede*: 4, 2022, pages 223–224. Le Monnier, 2022.

Submitted works

- 2025 Feilong Wang, Renata Mansini, **Alice Raffaele**, Filippo Ranza, and Roberto Roberti. A DP-based Exact Method for the Submodular Knapsack Problem. November 2025.

Talks

Invited

- Dec, 2025 “A combinatoria of experiences, information, books”: *Searching for my own optimal solution at the Sharing know-how, research lines and career tips: a symposium for early stage researchers*, ShaKER2025, December 04, 2025, Verona, Italy
- Oct, 2025 *Emerging paradigms and new models in urban air mobility, last-mile delivery, and fleet sizing* at the *EURO WISDOM Forum YoungWomen4OR Talks, “OR for Routing and Transportation”*, October 02, 2025, online.
- 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.

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.

Posters

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

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.

Courses, schools, seminars and workshops

- Jun, 2025 *1st VeRoLog PhD School*, June 13–16, 2025 (24 hours), Trento, Italy.
- 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 – Mar, 2024 *061652 Robust Optimization*. Lecturer: Prof. Erick Delage (HEC Montréal). February, 27 – 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, Slovakia), 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 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 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).

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.

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 Trento*.
Feb, 2023 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).

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).

Teaching experimentations in primary and higher secondary schools

- Nov, 2025 **Carnevale della Matematica dal Vivo 2025 (trainer)**, *Museo Nazionale Scienza e Tecnologia Leonardo da Vinci, Milan, Italy.*
Organization of "Le Olimpiadi di Ottimizzazione", activities and games carried out to introduce the bases of operations research and algorithm development to Grades 9 classes. For more details, see <https://maddmaths.simai.eu/carnevale-milano-leonardo-2025/>.
- Nov, 2025 **Science 4 All (trainer)**, *University of Padova, Italy.*
Organization of "Le Olimpiadi di Ottimizzazione", activities and games carried out together with Prof. Roberto Roberti (University of Padova) to introduce the bases of operations research and algorithm development to Grades 5-7 classes. For more details, see <https://scuole.science4all.it/attivita/le-olimpiadi-di-ottimizzazione/>.
- Nov, 2024 **Science 4 All (trainer)**, *University of Padova, Italy.*
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/>.
- Nov, 2022 – Jan, 2023 **Banco di Prova (creator, designer, and experimenter)**, *Oratorio CG 2000, Chiari, Brescia, Italy.*
Learning path designed with Davide Capoferri (Ph.D. in Biotechnology) and Giovanni Macetti (Ph.D. in Chemistry), composed of nine meetings for primary and secondary school students to explore STEM subjects through active learning, games, and collaborative activities. Funded by the Comune di Chiari and the Oratorio CG 2000. Main responsible for the three meetings dedicated to mathematics and informatics: the Caesar Cipher and other secret languages (Nov. 14, 2022); the Christmas (Knapsack) problem and an innovative bingo (Nov. 19, 2022); and the algorithm behind cooking pasta and sorting games with numbers and heights (Jan. 09, 2023).
- Oct, 2022 – Jan, 2023 **ROAR III (creator, designer, and experimenter)**, *IIS Antonietti, Iseo, Brescia, Italy.*
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 – Apr, 2022 **ROAR II (creator, designer, and experimenter)**, *IIS Antonietti, Iseo, Brescia, Italy.*
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 – May, 2021 **ROAR I (creator, designer, and experimenter)**, *IIS Antonietti, Iseo, Brescia, Italy.*
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 – Dec, 2018 **KidsUniversity (trainer)**, *University of Verona.*
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).

Memberships

- Oct, 2021 – Mar, 2024 **Consiglio del Corso di Studio delle Lauree Triennali e Magistrali in Matematica**, *University 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).
Note: since September 2025, Carè is a Ph.D. student at the Politecnico di Milano.
- 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).
Note: since December 2024, Çolakoğlu is a Ph.D. student at the Politecnico di Milano.
- Jul, 2019 – **Enrica Pini (co-advisor)**, University of Verona.
Mar, 2020 Master's thesis in *Mathematics*.
Advisor: 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.
- Feb, 2022 Awarded of the **best paper award** for the book chapter “*A Two-Phase Approach to Evaluate and Optimize an Interlibrary Loan Service: The Case Study of Provincia di Brescia*”.
- May, 2021 Selected as a **Reading Ambassador**, an Italian award issued by the Centro per il Libro e la Lettura to people and organizations that promote reading and foster best practices related to books and reading.
- 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 – Mar, 2021 Recipient of the **Italian PhD Scholarship** to attend the PhD course in Mathematics jointly organized by University of Trento and University of Verona. 16350 €/year.
- Sep, 2015 – Jan, 2016 Recipient of the **Scholarship of Excellence** funded by Université Laval, Québec, Canada. 4000 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

Oct, 2026 *Creative Mathematical Sciences Communication 2026* (role: organizing co-chair), University of Padua, Italy, October 12-15, 2026, <http://cmsc2026.github.io>

Feb, 2026 *10th AIROYoung Workshop and Ph.D. School* (role: chair), University of Padua, Italy, February 9-13, 2026, <https://ayw2026.github.io>

Nov, 2025 *Carnevale della Matematica dal Vivo 2025* (role: member), Museo Nazionale Scienza e Tecnologia Leonardo da Vinci, Milan, Italy, November 21-22, 2025, <https://maddmaths.simai.eu/carnevale-milano-leonardo-2025/>

Feb, 2020 *4th AIROYoung Workshop* (role: member), 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 Research, present Heliyon, International Journal of Mathematical Education in Science and Technology, INFORMS Transactions on Education, International Transactions in Operational Research, Integer Programming and Combinatorial Optimization, Networks, Operations Research Forum, The Art of Discrete and Applied Mathematics, Transportation Science.

Editorial activity

2025 – **Special Volume editor** (with Martina Doneda, Dario Palasgo, and Marta L. Tessitore) of the present book entitled *Optimization between determinism and uncertainty*" in the AIRO Springer Series.

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 Society). present
- Jan, 2021 – Member of **GNCS-INdAM** (National Group for Numerical Analysis – Gruppo Nazionale per il Calcolo Scientifico dell'Istituto Nazionale di Alta Matematica, Sezione Fondamenti di Informatica e Sistemi Informatici). present
- 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 Languages C, C++, Python, Java, SQL, C#, HTML, Markdown, CSS, PHP, Javascript
- 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:

<https://www.google.com/maps/d/u/0/edit?mid=1DofkuuHNFXbRL1pQStHPt37R76AAPcY&usp=sharing>

Jan, 2021 – **4th National Meeting of Italian Bookclubs (creator and member of the organizing committee)**, Chiari, Brescia, Italy.

Jul, 2021 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).

Acconsento al trattamento dei dati personali contenuti nel mio curriculum vitae in base al D. Lgs. 196/2003, integrato con le modifiche introdotte dal il D. Lgs. 101/2018, e all'art. 13 del GDPR (Regolamento UE 2016/679).