

PERSONAL INFORMATION

Stefano Ardizzoni (He/Him) **Work Address** 181/A Parco Area delle Scienze, 43124 Parma PR, Italy +39 0521 90 6183  stefano.ardizzoni@unipr.it**Gender** Male**Date of birth** December 29, 1995**Nationality** Italian

WORK EXPERIENCE

Sep 2025 – present

3-year term, renewal possibility for 2 years

Research Fellow (RTD-A), University of Parma, Parma IT

Academic Discipline: MATH-06/A "Operation Research"

I am contributing to the Department research, addressing theoretical and experimental aspects of the field with a focus on autonomous vehicles and planning and graph theory.

Sep 2023 – Aug 2025

2-year term

Postdoc, University of Parma, Parma IT

Scholarship funded by the National Recovery and Resilience Plan (NRRP)

I participated in the project funded under the National Recovery and Resilience Plan (NRRP) "Ecosystem for Sustainable Transition in Emilia-Romagna" (Ecosister) – Spoke 4. Smart mobility, housing and energy solutions – Work Package 1. Pedestrian and cyclist safety, high-quality cycling network, modelling mobility flows, multimodal systems and shared mobility, cybernetic mobility, video system.

Sep 2021 – present

Mathematics teacher in secondary school, I.S.I.S.S. Pietro Giordani, Parma IT

Currently on leave for research reasons.

EDUCATION

2020–2023

PhD in Information Technologies, University of Parma, Parma IT

Final mark: excellent, cum laude

Scholarship funded by OCME S.r.l.

Thesis: *Motion planning for multiple autonomous vehicles on a graph*

Defense date: 23/02/2024

2020

Erasmus Traineeship at the Department of Applied Mathematics of the University of Granada, SP

2017–2020

Master's degree in Mathematics, University of Parma, Parma IT

Final degree mark: 110/110 cum laude

Thesis: *Random discharge potential NNLI model*

2014–2017

Bachelor's degree in Mathematics, University of Parma, Parma IT

Final degree mark: 110/110 cum laude

Thesis: *Qualitative study of a mathematical model for tumor dynamics*

2009–2014

Scientific High School degree, Liceo Scientifico "G. Marconi", Parma IT

School-leaving examination mark: 96/100 (minimum mark: 60)

CONFERENCES

2022

ODS 2022 (international conference on optimization and decision science), Firenze IT
Speaker: "Shortest path with acceleration constraints: Complexity and approximation algorithms"

2022

IEEE 61th Conference on Decision and Control (CDC), Virtual Edition, Cancun, Mexico

Speaker: "Multi-agent path finding on strongly connected digraphs"

- 2021 IEEE 60th Conference on Decision and Control (CDC), Virtual Edition, Austin, Texas, USA
Speaker: "Efficient solution algorithms for the Bounded Acceleration Shortest Path problem"

SEMINARS

- 2018 [Series of educational seminars](#), University of Parma, Parma IT
Invited speaker: "Mathematical models for tumor dynamics"

PUBLICATIONS

International Journals

- [1] S. Ardizzoni, B. Caselli, L. Consolini, M. Laurini, M. Locatelli, R. Praxedes, S. Rossetti, F. Stabile. Optimization approaches to identify cyclists' route choice criteria, *Omega* (2026): 103574.
- [2] S. Ardizzoni, L. Consolini, M. Locatelli. Exactness conditions for the dual Lagrangian bound of separable quadratically constrained quadratic programming problems, *Journal of Global Optimization* (2026): 1-23.
- [3] S. Ardizzoni, L. Consolini, I. Saccani, M. Locatelli, B. Nebel. Multi-agent pathfinding on strongly connected digraphs: Feasibility and solution algorithms, *Artificial Intelligence* 347 (2025): 104372.
- [4] S. Ardizzoni, L. Consolini, M. Laurini, M. Locatelli. Speed planning by minimizing travel time and energy consumption, *EURO Journal on Computational Optimization* (2025): 100112.
- [5] S. Ardizzoni, L. Consolini, I. Saccani, M. Locatelli. Constrained Motion Planning and Multi-Agent Path Finding on directed graphs, *Automatica* 165 (2024): 111593
- [6] S. Ardizzoni, L. Consolini, I. Saccani, M. Locatelli, B. Nebel. An algorithm with improved complexity for pebble motion/multi-agent path finding on trees, *Journal of Artificial Intelligence Research*, 79, 483-514, 2024
- [7] S. Ardizzoni, L. Consolini, M. Laurini, M. Locatelli. Solution algorithms for the Bounded Acceleration Shortest Path Problem, *IEEE Transactions on Automatic Control*, 68 (3):1910–1917, 2023
- [8] S. Ardizzoni, L. Consolini, M. Laurini, M. Locatelli. Shortest path with acceleration constraints: complexity and approximation algorithms, *Computational Optimization and Applications*, 83: 555–592, 2022
- [9] F. G Dall'Olio, C. Parisi, L. Marcolin, S. Brocchi, C. Caramella, N. Conci, G. Carpani, F. Gelsomino, S. Ardizzoni, P. Valeria Marchese, A. Paccapelo, G. Grilli, R. Golfieri, B. Besse, A. Ardizzoni. Monitoring tumor growth rate to predict immune checkpoint inhibitors' treatment outcome in advanced NSCLC, *Therapeutic Advances in Medical Oncology*, 14, 17588359211058391, 2022

Conference Proceedings

- [1] S. Ardizzoni, L. Consolini, M. Laurini, M. Locatelli. A MATLAB app for teaching multi-objective speed planning: Minimizing time and energy consumption, *IFAC-PapersOnLine* 59.7 (2025): 105-110.
- [2] R. Praxedes, A. Subramanian, S. Ardizzoni, L. Consolini, M. Locatelli. Optimization methods to improve the quality of a cycling network under budget constraints, *2025 IEEE 64th Conference on Decision and Control (CDC)*
- [3] M. Laurini, I. Saccani, N. Naz, S. Ardizzoni, L. Consolini, M. Locatelli. Generalized Least Squares for Vehicle Traffic Estimation, *2025 33rd Mediterranean Conference on Control and Automation (MED)*. IEEE, 2025.
- [4] M. Laurini, I. Saccani, S. Ardizzoni, L. Consolini, M. Locatelli. A Dynamic Programming Approach for Road Traffic Estimation, *2024 IEEE 63rd Conference on Decision and Control (CDC)*. IEEE, 2024. p. 4187-4192.
- [5] S. Ardizzoni, M. Laurini, R. Praxedes, L. Consolini, M. Locatelli. Identification of Cyclists' Route Choice Criteria, *2024 IEEE 63rd Conference on Decision and Control (CDC)*. IEEE, 2024. p. 6975-6980.
- [6] S. Ardizzoni, L. Consolini, I. Saccani, M. Locatelli. Local Optimization of MAPF solutions on Directed Graphs, *2023 IEEE 62th Conference on Decision and Control (CDC)*, 8081–8086

- [7] S. Ardizzoni, L. Consolini, I. Saccani, M. Locatelli. Multi-agent path finding on strongly connected digraphs, 2022 IEEE 61th Conference on Decision and Control (CDC), 7194–7199
- [8] S. Ardizzoni, L. Consolini, M. Laurini, M. Locatelli. Efficient solution algorithms for the Bounded Acceleration Shortest Path problem, 2021 IEEE 60th Conference on Decision and Control (CDC), 5729–5734

OTHER STUDIES

- 2021 (1 week) SIDRA PhD Summer School
Italian Control Systems Society (SIDRA), Bertinoro IT
- 2021 (12 hours) Optimization Models for Machine Learning
- 2021 (20 hours) Heuristic algorithms for Combinatorial Optimization problems
PhD Course, University of Milano, Milano IT
- 2021 (16 hours) Optimization and Data Science: Trends and Application
AIRO PhD School, Naples IT

TEACHING ACTIVITIES

- 2019 Teacher of computer science, CIOFS Parma

Lecturer, University of Parma, Parma IT

- 2025 - present Optimization Fundamentals for Master's students in Computer Engineering.
- 2024 - present Path and Trajectory Planning for Master's students in Data Science for Management.
- 2025 Applied Mathematics for Bachelor's students in Engineering.
- 2018 Cycle of Didactic Seminars at the University of Parma entitled: "Mathematical models for tumor dynamics".

Tutor, University of Parma, Parma IT

- 2021–2023 Applied Mathematics for Bachelor's students in Engineering.
- 2021–2023 Mathematical Analysis I for Bachelor's students in Mathematics.
- 2021 Mathematics for Bachelor's students in Chemistry.

SCIENTIFIC DIVULGATION

- 2026 Volunteer, [Researchers@School](#), "Qual è il segreto di un navigatore?", Elementary schools in Parma, IT
- 2014–2018, 2026 Volunteer, European Researchers' Night, University of Parma IT
- 2023 Workshop leader, [Festival della Scienza](#), "Qual è il segreto di un navigatore?", Genova, IT
- 2019 Role of external expert for the conduction of "Laboratories of Mathematical Games", Comprehensive Institute of via Montebello, Parma
- 2019 Participation in the contest FameLab Italy with passing the preselection, Genova.
- 2018-2019 Role of external expert in the Project Pon "Mathematics with games" at the comprehensive institute Cecrope Barilli.
- 2018 Scientific animator at the Genoa Science Festival 2018.

COMPUTER LANGUAGES

MATLAB, C/C++, $\text{\LaTeX}$.

LANGUAGES

Italian: Mother tongue English: B2

OTHER ACTIVITIES

- 2018–present Theater actor at Europa Teatri, Parma IT

2016–present Scout Leader for the association Agesci, Parma IT

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