Paola Pellegrini

Personal information

Name	Paola Pellegrini
E-mail	paola.pellegrini@univ-eiffel.fr
Date of birth	11-25-1980
Position	Reasearch director, COSYS-ESTAS, Université Gustave Eiffel (ex IFSTTAR), France
ResearcherID	Web of Science: E-1633-2015
	Scopus: 15074252500
	Orcid: 0000-0002-6087-651X

Education and qualifications

2018 **Qualification to the function of Professore di prima fascia (full professor)**, *Section 01/A6* - Operations research, Italy.

2018 **Qualification to the function of Professore di seconda fascia (associate professor)**, *Section 01/A6* - Operations research, Italy.

2018 **HDR (Habilitation à Diriger des Recherches) in Mathematical Sciences**, *Université de Lille*, Lille, France,
Thesis title: *Optimization for complex problems in air and rail transport*.

2013 **Qualification to the function of Maître de conférence**, *Section 61* - Computer science engineering, automatic and signal treatment, France.

2003–2007 **PhD in Economics, in the field of Mathematical Economics**, *Università Ca' Foscari Venezia*, Venice, Italy,
Thesis title: *ACO: parameters, exploration and quality of solutions*.

1999–2003 **Master Degree in Business Economics**, *Università Ca' Foscari Venezia*, Venice, Italy,
Thesis title: *Behavioral Model of an Ant Colony for a Problem of Distributive Logistics with multiple time windows: the case study* Polo SpA (in Italian).

Research interests

Railway traffic management, optimization, modeling, integer linear programming, artificial intelligence, metaheuristics, swarm intelligence, air traffic management.

Summary of scientific production

Nature of the contribution	total	since 2021
Articles published on international journals (peer-reviewed)	47	16
Book chapters	2	0
Articles published in the proceedings of international conferences (peer-reviewed)	82	34
Abstracts published in the proceedings of international conferences and workshops	101	49
Technical reports	23	0

Work experience

Research

2023–now   **Research director**, *Université Gustave Eiffel (previously IFSTTAR), COSYS-ESTAS*, Lille, France.

2019–2022   **Research director**, *Université Gustave Eiffel (previously IFSTTAR), COSYS-LEOST*, Lille, France.

2014–2019   **Researcher**, *IFSTTAR, COSYS-LEOST*, (Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux), Lille, France.

2011–2014   **Post-doctoral researcher**, *IFSTTAR, COSYS-ESTAS*, (Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux), Lille, France.

2010–2011   **Post-doctoral researcher**, *IRIDIA*, (Institut de Recherches Interdisciplinaires et de Développements en Intelligence Artificielle), Université Libre de Bruxelles, Bruxelles, Belgium.

2009–2010   **Post-doctoral researcher**, *Dipartimento di Matematica Applicata*, Università Ca' Foscari Venezia, Venice, Italy.

2008–2009   **Post-doctoral researcher**, *Dipartimento di Elettrotecnica, Elettronica e Informatica*, Università di Trieste, Trieste, Italy.

2005–2006   **Visiting researcher**, *IRIDIA*, (Institut de Recherches Interdisciplinaires et de Développements en Intelligence Artificielle), Université Libre de Bruxelles, Bruxelles, Belgium.

2004–2005   **Visiting researcher**, *Department of Systems and Industrial Engineering*, University of Arizona, Tucson, USA.

Industry

2010–now   **Member of the board of directors**, *GP Pellegrini SpA*, Venice, Italy, http://www.pellegrini.it.

2010–2017   **Member of the board of directors**, *GP Dati Hotel Service SpA*, Venice, Italy, http://www.gpdati.com.

2010–2011   **Consultant for the development of a revenue management software tool**, *GP Dati Hotel Service SpA*, Venice, Italy, http://www.gpdati.com.

2007–2008   **Project manager for the development of printing and management software**, *GP Pellegrini SpA*, Venice, Italy, http://www.pellegrini.it.

2003   **Trainee involved in the the development of a logistic software tool**, *Polo S.p.A.*, Padua, Italy, http://www.poloristorazione.it.

Institutional responsibilities

2021–now	Member of the Academic Council (Conseil académique), Université Gustave Eiffel
2020–now	Representative of the COSYS department at the Research Body (Collège de la recherche), Université Gustave Eiffel
2019–now	Member of the Board of IAROR - International Association of Railway Operations Research
2018–2022	Deputy director of the COSYS-LEOST laboratory, Université Gustave Eiffel
2017–2019	Co-facilitator of a thematic work-group on Autonomous Vehicles within the Unifying Project "Infrastructure of Energetic Transition", IFSTTAR

Teaching experience

2025	Lecturer on Real-Time Railway Traffic Management Optimization (master course in Logistics and mobility 4.0, 8 hours) 5G-SN1. ESIEE Paris, Paris, France.
2024	Lecturer on Real-Time Railway Traffic Management Optimization (master course in Logistics and mobility 4.0, 8 hours) 5G-SN1. ESIEE Paris, Paris, France.
2023	Lecturer on Real-Time Railway Traffic Management Optimization (master course in Logistics and mobility 4.0, 20 hours) 5G-SN1. ESIEE Paris, Paris, France.
2022	Lecturer on Real-Time Railway Traffic Management Optimization (master course in Logistics and mobility 4.0, 24 hours) 5G-SN1. ESIEE Paris, Paris, France.
2020–2022	Coordinator of the Intelligent Public Transport CES (Certificat d'Études Spécialisées – Certificate of Specialized Studies) FC9TR06. Télécom Evolution, Paris, France.
2021	Invited lecturer on Applications of real-time traffic management (master course in Railway Traffic Management, 1 hour). Civil Engineering and Geosciences. Delft University of Technology, Delft, The Netherlands.
2021	Lecturer on Real-Time Railway Traffic Management Optimization (master course in Logistics and mobility 4.0, 22 hours) GI-5203A. ESIEE Paris, Paris, France.
2020	Invited lecturer on Applications of real-time traffic management (master course in Railway Traffic Management, 1 hour). Civil Engineering and Geosciences. Delft University of Technology, Delft, The Netherlands.
2020	Lecturer on Control-command (ERTMS-ETCS, CBTC) and traffic management (CES (Certificat d'Études Spécialisées (Certificate of Specialized Studies) in Intelligent Public Transport, 4 hour). Télécom Evolution, Paris, France.
2019	Invited lecturer on Models and solution of the real-time Railway Traffic Management Problem (master course in Optimization models, 4 hours). Department of Engineering and Architecture. Università di Trieste, Trieste, Italy.
2016	Invited lecturer on Models and solution of the real-time Railway Traffic Management Problem (master course in Optimization models, 4 hours). Department of Engineering and Architecture. Università di Trieste, Trieste, Italy.
2016	Invited lecturer on Railway Traffic Management in Europe: current practice and academic research (undergraduate course in Transportation, 4 hours). Faculty of Architecture. IUAV University of Venice, Venice, Italy.
2016	Invited lecturer on RECIFE-MILP: an effective heuristic for the real-time Railway Traffic Management Problem (master course in Optimization in public services, 6 hours). Faculty of Engineering. Università Roma 3, Rome, Italy.

2015	Invited lecturer on Models and solution of the real-time Railway Traffic Management Problem (master course in Optimization models, 4 hours). Department of Engineering and Architecture. Università di Trieste, Trieste, Italy.
2015	Invited lecturer on Railway Traffic Management in Europe: current practice and academic research (undergraduate course in Transportation, 4 hours). Faculty of Architecture. IUAV University of Venice, Venice, Italy.
2009–2010	Teaching assistant of Mathematics (undergraduate course, 27 hours), Università Ca' Foscari Venezia, Venice, Italy.
2008–2009	Teaching assistant of Mathematics (undergraduate course, 7.5 hours) and Logistics (undergraduate course, 15 hours), Università Ca' Foscari Venezia, Venice, Italy.
2006–2007	Lecturer of Elements of Informatics for Economics (undergraduate course, 30 hours), teaching assistant of Mathematics (undergraduate course, 7.5 hours) and Microeconomics II (PhD course, 15 hours), Università Ca' Foscari Venezia, Venice, Italy.

Invited talks

October 2025	**Self-organizing Railway Traffic**, *Keynote presentation given at the IEEE International Conference on Intelligent Rail Transportation (ICIRT) 2025*, Beijing, China.
July 2025	**Optimization and AI for Rail Traffic Management**, *Talk given at the Hub of Talents: Thailand Railway Research Network*, Bangkok, Thailand.
July 2025	**French Rail System: Operations and Management**, *Talk given at the Faculty of Industrial Technology and Management, King Mongkut's University of Technology North Bangkok, Prachinburi Campus*, Prachinburi, Thailand.
July 2025	**From Manuscript to Publication — How to Choose a Journal and Handle Rejection**, *Talk given at the Faculty of Industrial Technology and Management, King Mongkut's University of Technology North Bangkok, Prachinburi Campus*, Prachinburi, Thailand.
September 2024	**Hybrid OR-AI algorithms for Railway Traffic Management**, *Keynote presentation given at the ODS2024 - Optimization and Decision Science conference*, Badesi, Italy.
April 2024	**Results of the OptiYard EU project**, *Talk given at the Department of Engineering, University of Luxembourg*, Luxembourg, Luxembourg.
April 2024	**Self-organization in rail traffic management**, *Talk given at the Department of Civil, Computer Science and Aeronautical Technologies Engineering, Università Roma Tre*, Rome, Italy.
April 2023	**RECIFE: An Advanced Platfom for the Design and Test of Railway Traffic Management Optimization**, *Talk given at the Department of Engineering, Università di Trieste*, Trieste, Italy.
March 2023	**RECIFE: An Advanced Platfom for the Design and Test of Railway Traffic Management Optimization**, *Talk given as an INFORMS Railway Application Section (RAS) webminar*.
February 2022	**A glimpse on the mission of OR researchers in rail traffic management**, *Keynote presentation given at the 6th AiroYoung workshop*, Rome, Italy.
October 2019	**OptiYard: Optimised Real-Time Yard and Network Management**, *Talk given at the 6th international symposium on railway operations research, BJTU*, Beijing, China.
July 2018	**A Benders decomposition for the real-time Railway Traffic Management Problem**, *Talk given at TRAIL - Research School for Transport, Infrastructure and Logistics, TU Delft*, Delft, The Netherlands.

November 2017	**RECIFE-MILP for real-time railway traffic optimization: main results and current research**, *Talk given at the Department of Science and Technology, Linköping University*, Norrköping, Sweden.
May 2016	**On the actual impact of real-time railway traffic management optimization**, *Talk given at the Railway Operations Research Seminar: 'Put Passengers First'*, Leuven, Belgium.
November 2012	**Forecasting hotel demand: mathematical models and algorithms available to the revenue manager**, *Talk given at the Web Hotel Revenue Seminar 2012*, Rome, Italy.
November 2012	**Forecasting of the demand: one of the most interesting challenges of revenue management: What mathematics can and cannot do**, *Talk given at the Web Hotel Revenue Seminar 2012*, Rome, Italy.
April 2012	**Yield management and forecasting: How the revenue manager can profit from models and algorithms**, *Talk given at the GP Days Seminar 2012, organized by GP Dati Hotel Service SpA*, Venice, Italy.
November 2011	**Mathematics and yield management: How the revenue manager can profit from models and algorithms**, *Talk given at the Web Hotel Revenue Seminar 2011*, Rome, Italy.
June 2011	**Swarm Intelligence**, *Talk given at the Danish Pavilion at the 54th Venice Biennale*, Venice, Italy.

Invited lectures

July 2025	**Solving Real-World Transport Problems with AI and Optimization**, Faculty of Industrial Technology and Management, KMUTNB Prachinburi Campus, Prachinburi, Thailand.
November 2021	**Real-time railway traffic management problem: model and algorithms**, School of Mechanical Engineering, Southwest Jiaotong University, Chengdu, Sichuan, China.
April 2021	**Models and algorithms for the real-time railway traffic management problem**, *On-line Workshop on Railway Optimization 2021*, Università Roma Tre, UCL.
March 2015	**Real-time Railway Traffic Management**, *RailTokyo2015, 6th International Conference on Railway Operations Modelling and Analysis*, Tokyo, Japan.
October 2011	**Mathematical methods for the yield management in the hospitality industry**, *GP Dati Hotel Service SpA*, Venice, Italy.
May 2009	**Revenue management in air traffic management**, *Lecture given during the course of* Quantitative methods for decision making in tourism. *Faculty of Economics. Università Ca' Foscari Venezia*, Venice, Italy.
November 2008	**Application of ant colony optimization to real-world problems**, *Lecture given during the course of* Optimization models. *Faculty of Engineering. Università di Trieste*, Trieste, Italy.
November 2008	**Introduction to metaheuristics**, *Lecture given during the course of* Optimization models. *Faculty of Engineering. Università di Trieste*, Trieste, Italy.
March 2008	**Revenue management in air traffic management**, *Lecture given during the course of* Quantitative methods for decision making in tourism. *Faculty of Economics. Università Ca' Foscari Venezia*, Venice, Italy.

Awards

2023 Rank in the 11 best papers, 10th International Conference on Railway Operations Modelling & Analysis - RailBelgrade 2023. [65]

2017 Best paper award, 7th International Conference on Railway Operations Modelling and Analysis - RailLille 2017. [96]

Personal fellowships

2012 Configuring algorithms: A novel framework, three-year mandate of *chargé de recherches* F.R.S. - FNRS, A 4/5 - MCF/DM - 11191, Belgium. (Fellowship awarded but not accepted.)

2010 On-line meets Off-line Tuning: A novel approach for tuning the parameters of ant colony optimization and other metaheuristics, //AMG/VLD/WBI.WORLD/doh/2010/14511, Belgium.

Research project and initiative participation

European projects and initiatives

2024–2027 Travel Wise – Transformation of aviation and railway solutions towards integration and synergy, HORIZON-JU-ER-2023-FA1-SESAR-101178579. Project Participant.

2023–2027 REINFORCERAIL - Railway EffIcieNcy Fostered by Operations ResearCh EmpoweRing ArticiIicial InteLligence, Bilateral MESRI – BMBF cooperation. French Project coordinator.

2023–2025 MultiModX - Integrated Passenger-Centric Planning of Multimodal Transport Networks, H2020-SESAR-2022-DES-ER-01-101114815. Advisory board member.

2022–2027 MOTIONAL - MObility managemenT multImodal envirOnment aNd digitAl enabLers, HORIZON-ER-JU-2022-FA1-TT-01. Project participant.

2021–2024 SORTEDMOBILITY - Self-Organized Rail Traffic for the Evolution of Decentralized MOBILITY, EN-UAC ERA-NET Cofund, H2020, 99950100. Project coordinator.

2021–2022 MODUS - Modelling and assessing the role of air transport in an integrated, intermodal transport system, H2020-SESAR-2019-2-891166. Advisory board member.

2020–2023 PERFORMINGRAIL - PERformance-based Formal modelling and Optimal tRaffic Management for movING-block RAILway signalling, S2R-OC-IP2-01-2020-101015416.Project participant.

2019–2023 X2RAIL-4 - Advanced signalling and automation system - Completion of activities for enhanced automation systems, train integrity, traffic management evolution and smart object controllers, S2R-CFM-IP2-01-2019.Project participant.

2018–2021 Engage - European network for the ATM community, H2020-EU.3.4.7. - SESAR JU - 783287. Advisory board member.

2017–2020 X2RAIL-2 - Enhancing railway signalling systems based on train satellite positioning, on-board safe train integrity, formal methods approach and standard interfaces, enhancing Traffic Management System functions, S2R-CFM-IP2-01-2017-777465. Project participant.

2017–2019 Optimised Real-time Yard and Network Management (OptiYard), H2020-S2RJU-OC-2017-777594. Lead of Work Package 5.

2013–2017	Capacity4Rail - Increasing Capacity 4 Rail networks through enhanced infrastructure and optimised operations (CAPACITY4RAIL), FP7-SST-2013-RTD-1-605650. Lead of Work Package 3.3.
2011–2014	Optimal Networks for Train Integration Management across Europe (ON-TIME), FP7-SCP0-GA-2011-265647. Project participant.
2008–2009	Contract-based Air Transportation System (CATS), TREN/07/FP6AE/S07.75348/036889. Project participant.

National projects

2023–2026	FERROMOBILE, Appel à Manifestation d'Intérêt du Comité d'Orientation de la Recherche et de l'Innovation Ferroviaires 2021 (AMI CORIFER).
2013–2015	Simulation of an innovative freight traffic management (SIGIFret - Simulations d'une gestion innovante des circulations fret), Programme de REcherche et D'Innovation dans les Transports terrestres (PREDIT).

Industrial projects

2023–2027	Contribution to algorithm design, TRENOlab srls.
2020–2021	Acquisition of tools for the development of mathematical optimization of strategic route models (Anskaffelse av verktøy for utvikling av matematisk optimering av strategiske rutemodeller), TRENOlab srls, Jernbane-direktoratet.
2019–2021	Design and assessment of an optimization algorithm for real-time on-demand passenger transportation planning (Conception et test d'un algorithme d'optimisation pour la planification temps-réel d'un service de transport de passagers à la demande sur voie dédiée), Société nationale SNCF.
2018–2020	Link Ingetime - RECIFE (LIERE - Liaison Ingetime Et REcife), Rail Concept.
2006	Study on the transportation and economic system in the areas interested by the project "Gronda Sud di Milano" (Studio trasportistico sull'assetto economico e logistico delle aree interessate dal progetto della Gronda Sud di Milano), Rete Ferroviaria Italiana SpA (RFI).

University Chairs

2022–2027	Safety of Railway Systems. Partners: CERTIFER Association, GAPAVE, Université Gustave Eiffel. Chair director.

Conference organization

2025	Member of the program committee of ANTS 2026 - 15th International Conference on Swarm Intelligence.
2025	Member of the Technical Program Chair group of 9th MT-ITS Conference (MT-ITS2025).
2025	Member of the program committee of IEEE-ICIRT 2025 - International Conference on Intelligent Rail Transportation.
2025	Member of the program committee of AI4RAILS 2025 - The 5th International Workshop on "Artificial Intelligence for RAILwayS".
2025	Member of the organizing committee of GECCO 2025 - Genetic and Evolutionary Computation Conference, track on swarm intelligence co-chair.
2020	Organizer of the Railway Transport stream in ROADEF 2025 - 26th conference ROADEF of the French society of operations research and decision aid.

2025   Member of the scientific advisory committee of RailDresden 2025 - 11th International Conference on Railway Operations Modelling & Analysis.

2025   Member of the program committee of 25th European Conference on Evolutionary Computation in Combinatorial Optimisation (EvoCOP 2025).

2025   Member of the scientific committee of the Eleventh Triennial Symposium on Transportation Analysis conference (TRISTAN XII).

2024   Member of the organizing committee of GECCO 2024 - Genetic and Evolutionary Computation Conference, track on swarm intelligence co-chair.

2024   Member of the program committee of AI4RAILS 2024 - The 5th International Workshop on "Artificial Intelligence for RAILwayS".

2024   Member of the program committee of 24th European Conference on Evolutionary Computation in Combinatorial Optimisation (EvoCOP 2024).

2024   Organizer of the Railway Transport stream in ROADEF 204 - 25th conference ROADEF of the French society of operations research and decision aid.

2024   Member of the program committee of the 14th International Conference on Swarm Intelligence (ANTS 2024).

2023   Member of the program committee of AI4RAILS 2023 - The 4th International Workshop on "Artificial Intelligence for RAILwayS".

2023   Member of the scientific advisory committee of RailBelgrade 2023 - 10th International Conference on Railway Operations Modelling & Analysis.

2023   Member of the program committee of GECCO 2023 - Genetic and Evolutionary Computation Conference, track on ant colony optimization and swarm intelligence.

2023   Organizer of the Railway Transport stream in ROADEF 2023 - 24th conference ROADEF of the French society of operations research and decision aid.

2023   Member of the program committee of 23rd European Conference on Evolutionary Computation in Combinatorial Optimisation (EvoCOP 2023).

2022   Member of the program committee of GECCO 2022 - Genetic and Evolutionary Computation Conference, track on evolutionary combinatorial optimization and metaheuristics.

2022   Organizer of the Railway Transport stream in ROADEF 2022 - 23th conference ROADEF of the French society of operations research and decision aid.

2022   Member of the program committee of the 22nd European Conference on Evolutionary Computation in Combinatorial Optimisation (EvoCOP 2022).

2022   Member of the program committee of the 13th International Conference on Swarm Intelligence (ANTS 2022).

2021   Member of the scientific committee of the Eleventh Triennial Symposium on Transportation Analysis conference (TRISTAN XI).

2021   Member of the program committee of GECCO 2021 - Genetic and Evolutionary Computation Conference, track on evolutionary combinatorial optimization and metaheuristics.

2021   Member of the program committee of the 11th SESAR Innovation Days (SIDs 2021).

2021   Member of the program committee of the 21th European Conference on Evolutionary Computation in Combinatorial Optimisation (EvoCOP 2021).

2021   Member of the scientific advisory committee of RailBeijing 2021 - 9th International Conference on Railway Operations Modelling & Analysis.

2021   Member of the program committee of ECTA 2021 - 13th International Conference on Evolutionary Computation Theory and Applications.

2020	Member of the program committee of the 10th SESAR Innovation Days (SIDs 2020).
2020	Member of the program committee of GECCO 2020 - Genetic and Evolutionary Computation Conference, track on evolutionary combinatorial optimization and meta-heuristics.
2020	Organizer of the Railway Transport stream in ROADEF 2020 - 21th conference ROADEF of the French society of operations research and decision aid.
2020	Member of the program committee of ECTA 2020 - 12th International Conference on Evolutionary Computation Theory and Applications.
2020	Member of the program committee of the 20th European Conference on Evolutionary Computation in Combinatorial Optimisation (EvoCOP 2020).
2020	Member of the program committee of the 12th International Conference on Swarm Intelligence (ANTS 2020).
2019	Member of the program committee of RailNorrköping 2019 - 8th International Conference on Railway Operations Modelling and Analysis (ICROMA).
2019	Member of the program committee of ECTA 2019 - 11th International Conference on Evolutionary Computation Theory and Applications.
2018	Organizer of the Railway Transport stream in ROADEF 2018 - 19th conference ROADEF of the French society of operations research and decision aid.
2018	Member of the program committee of ANTS 2018 - 11th International Conference on Swarm Intelligence.
2018	Member of the program committee of EvoCOP 2018 - the 18th European Conference on Evolutionary Computation in Combinatorial Optimisation.
2017	Member of the program committee of ATMOS 2017 - the 17th Workshop on Algorithmic Approaches for Transportation Modeling, Optimization, and Systems.
2017	Member of the program committee of EvoCOP 2017 - the 17th European Conference on Evolutionary Computation in Combinatorial Optimisation.
2016-2017	Member of the organization committee of RailLille 2017 - 7th International Conference on Railway Operations Modelling and Analysis.
2016	Member of the program committee of ANTS 2016 - 10th International Conference on Swarm Intelligence, track on ant colony optimization and other non-PSO optimization methods.
2015	Member of the program committee of GECCO 2015 - Genetic and Evolutionary Computation Conference, track on ant colony optimization and swarm intelligence.
2013	Member of the program committee of GECCO 2013 - Genetic and Evolutionary Computation Conference, track on evolutionary combinatorial optimization and meta-heuristics.
2013	Participant to the organization of XXVI EURO - INFORMS Joint International Conference, at Sapienza University, Rome, Italy.
2012	Member of the program committee of GECCO 2012 - Genetic and Evolutionary Computation Conference, track on evolutionary combinatorial optimization and metaheuristics, and of ANTS 2012 - Eighth International Conference on Swarm Intelligence.
2011	Member of the program committee of GECCO 2011 - Genetic and Evolutionary Computation Conference, track on combinatorial optimization and metaheuristics.

2010	Member of the program committee of GECCO 2010 - Genetic and Evolutionary Computation Conference, track on Combinatorial Optimization and Metaheuristics, and of ANTS 2010 - Fifth International Workshop on Ant Colony Optimization and Swarm Intelligence.
2009	Member of the program committee of GECCO 2009 - Genetic and Evolutionary Computation Conference, track on combinatorial optimization and metaheuristics, and of SLS 2009 - Engineering Stochastic Local Search Algorithms: Designing, Implementing and Analyzing Effective Heuristics.
2007	Member of the program committee of GECCO 2007 - Genetic and Evolutionary Computation Conference, track on ant colony optimization, swarm intelligence, and artificial immune systems.
2004	Participant to the organization of The Tenth International Conference on Stochastic Programming, at the University of Arizona, Tucson, USA.
2003	Participant to the organization of the 34th AIRO conference, at Università Ca' Foscari di Venezia, Venice, Italy.

Editorial Activity for International Journals

Editorial board membership

Since 2024	Special Issue Editor: *IET Intelligent Transport Systems*
Since 2022	Associated editor: *EAAI Engineering Applications of Artificial Intelligence*
2020-2024	Associated editor: *IET Intelligent Transport Systems*
2021-2022	Associated editor: *Applied Sciences – Transportation and Future Mobility Section*
2017-2022	Associated editor: *Journal of Advanced Transportation*

Participation to guest editorial board for special issues

Robust, resilient, and reliable high-capacity transport systems, *Transportation Planning and Technology*, 2024

Simulation and Optimization for Railway Operations Management, *Journal of Advanced Transportation*, 2018

Referee activity

Annals of Operations Research, Artificial Life journal, Complexity, Computers and Mathematics with Applications, Computers & Graphics, Computers & Industrial Engineering, Constraints Journal, European Journal of Operational Research, Expert Systems, IEEE Computational Intelligence Magazine, IEEE Transactions on Evolutionary Computation, IEEE Transactions on Systems Man and Cybernetics, IEEE Transactions on Vehicular Technology, European Journal of Transport and Infrastructure Research, IET Intelligent Transport Systems, Information Sciences, International Journal of Geographical Information Science, International Journal of Rail Transportation, Journal of Air Transport Management, Journal of Artificial Intelligence Research, Journal of Experimental & Theoretical Artificial Intelligence, Journal of Global Optimization, Journal of Rail Transport Planning & Management, Journal of the Operational Research Society, Journal of Zhejiang University Science C (Computers & Electronics), Mathematical Problems in Engineering, Nonlinear Processes in Geophysics, Optimization Letters, RAIRO - Operations Research, Swarm and Evolutionary Computation, Swarm Intelligence, Transactions on Parallel and Distributed Systems, Transportation Research Part A, Transportation Research Part B, Transportation Research Part C, Transportation Research Part E.

Referee Activity for Scientific and Research Institutions

2024   Research project reviewer: Deutsche Forschungsgemeinschaft (DFG).

2024   Research project reviewer: MTR Research Funding (MRF) Scheme.

2024   Research project reviewer: Agence Nationale de la Recherche (ANR).

2023   Research project reviewer: Research project grant: Sustainability and resilience, Swedish Research Council.

2023   Research project reviewer: Mobility of the Future research programme, ETH Mobility Initiative.

2023   Research project reviewer: MTR Research Funding (MRF) Scheme.

2020   Research project reviewer: Fonds de recherche du Québec - Nature et Technologies (FRQNT), programme Samuel De Champlain

2020   Research project reviewer: Deutsche Forschungsgemeinschaft (DFG).

2010   Research project reviewer: The Netherlands Organisation for Scientific Research (NWO).

Participation to doctoral committees

2026   Doctoral committee member, committee president: Jaume Reixach, Universitat Autònoma de Barcelona, Spain.

2025   Doctoral committee member, reviewer: Tom Ray, Université de Tours, France.

2025   Doctoral committee member, reviewer: Maurice Krauth, Technical University of Dresden, Germany.

2025   Doctoral committee member, reviewer: Louis Fourcade, Ecole des Mines de Saint-Étienne, France.

2024   Doctoral committee member, reviewer: Jean Jodeau, Ecole des Mines de Saint-Étienne, France.

2024   Doctoral committee member, committee president: Mohammed Chelouati, Université Gustave Eiffel, France.

2024	Doctoral committee member, reviewer: Federico Bigi, University of Luxembourg, Luxembourg.
2024	Doctoral committee member: Tommaso Bosi, Universitá Roma Tre, Italy.
2023	Doctoral committee member, reviewer: Hugo Belhomme, Ecole des Mines de Saint-Étienne, France.
2023	Doctoral committee member, opponent: Niloofar Minbashi, KTH Royal Institute of Technology in Stockholm, Sweden.
2022	Doctoral committee member, committee president: Luis Alonso, École Nationale Supérieure d'Arts et Métiers, France.
2022	Doctoral committee member, reviewer: Anna Livia Croella, Sapienza Università di Roma, Italy.
2022	Doctoral committee member: Florin Leutwiler, KETH Zurich, Switzerland.
2022	Doctoral committee member, reviewer: Francisca Rosell Camps, Universitat Politècnica de Catalunya (UPC), Spain.
2022	Doctoral committee member, opponent: Jennifer Warg, KTH Royal Institute of Technology in Stockholm, Sweden.
2021	Doctoral committee member: Ingrid Johansson, KTH Royal Institute of Technology in Stockholm, Sweden.
2020	Doctoral committee member: Rémi Lucas, Institut Polytechnique de Paris, France.
2020	Committee member for first year PhD research plan defense: Michael Nold, Swiss Federal Institute of Technology Zurich - ETH Zurich, Switzerland.
2020	Doctoral committee member: Florian Schanzenbächer, Université Paris-Est, France.
2018	Doctoral committee member, opponent: Nadjla Ghaemi, TU Delft, the Netherlands.
2017	Doctoral committee member, reviewer: Stefano Costanzo, Università di Trieste, Italy.

Participation to selection boards

2023	Selection board president: Ingegneur d'études position, internal selection, Université Gustave Eiffel, France.
2021	Selection board member: Maître de Conférence (Associate Professor) position in Computer Science, Université d'Avignon, France.

Research supervision

Post-doctoral researchers supervision

2024-2026	Supervision of Bishal Sharma, Université Gustave Eiffel, France: *MOTIONAL*.
2024-2025	Supervision of Fateh Boudardara, Université Gustave Eiffel, France: *MOTIONAL*.
2024-2025	Supervision of Federico Naldini, Université Gustave Eiffel, France: *FERROMOBILE*.
2023-2025	Supervision of Bianca Pascariu, Université Gustave Eiffel, France: *MOTIONAL*.
2022-2023	Supervision of Bianca Pascariu, Université Gustave Eiffel, France: *SORTEDMOBILITY*.
2021-2024	Supervision of Federico Naldini, Université Gustave Eiffel, France: *SORTEDMOBILITY*.
2021-2023	Supervision of Xiajie Yi, Université Gustave Eiffel, France: *Railway traffic management*.
2021-2022	Supervision of Adrien Cambier, Université Gustave Eiffel, France: *Shuttle on demand*.

2020-2021	Supervision of Abbas Hamze, Université Gustave Eiffel, France: *Railway traffic management*.
2020-2020	Supervision of Ahmed Kadri, Université Gustave Eiffel, France: *Shuttle on demand*.
2019-2020	Supervision of Peng Guo, IFSTTAR, France: *Railway traffic management*.
2017-2019	Supervision of Samuel Deleplanque, IFSTTAR, France: *Real-time management of railway yards*.
2014-2015	Supervision of Rahimeh Neamatian-Monemi, IFSTTAR, France: *Multi-objective optimization for the quantification of capacity of railway nodes*.

PhD students supervision

2024-2027	Supervision of Cheng Bai, Université Gustave Eiffel, France: *Machine Learning Supporting Mathematical Optimization in real-time Railway Traffic Management*
2024-2027	Supervision of Elisabeth Brugger, ETH Zürich, Switzerland: *Human knowledge to enhance automatic railway operations efficiency and acceptance*
2024-2027	Supervision of Siyu Zhang, Southwest Jiaotong University, China: *Automatic routing and scheduling at a classification yard*
2023-2026	Supervision of Maissa Mati, Université Gustave Eiffel, France: *Optimisation de l'infrastructure ferroviaire*
2023-2025	Supervision of Xiaofang Xiao, Tongji University, China: *Integration of line planning, train scheduling and flexible rolling stock assignment for a metro line*
2021-2024	Supervision of Bishal Sharma, Université Gustave Eiffel, France: *Real-Time Traffic Management Optimization with Passenger Consideration*
2021-2025	Supervision of Nina Versluis, TU Delft, The Netherlands: *Optimal Real-Time Traffic Management of Train-Centric Railway Operations*
2020-2022	Supervision of Bianca Pascariu, Università Roma 3, Italy: *Mataheuristic algorithms for public transports*
2020-2023	Supervision of Reza Shahin, Université Gustave Eiffel, France: *Optimized management of a fleet of electric autonomous vehicles*.
2020-2021	Supervision of Federico Naldini, Università Di Bologna, Italy: *Mataheuristic algorithms for minimizing delay and energy consumption in real-time railway traffic management*.
2017-2020	Supervision of Franck Kamenga, IFSTTAR, France: *Local integrated optimization of rolling stock rostering and train movements*.
2014-2017	Supervision of Kaba Keita, IFSTTAR, France: *Decomposition of large-scale problems in the operational management of railway traffic*.
2015-2017	Supervision of Teresa Montrone, Università del Salento, Italy: *Energy consumption minimization on a railway network*.
2015-2017	Supervision of Nicola Coviello, Università La Sapienza, Italy: *Evaluating railway capacity through timetable analysis: methodologies and application cases*.
2014-2016	Supervision of Diego Arenas, IFSTTAR, Railenium, France: *Timetable re-optimization in case of maintenance activities on the railway infrastructure*.
2014-2016	Supervision of Marcella Samà, Università Roma 3, Italy: *Development of models and algorithms for public transports*.

Master students supervision

2025   Supervision of the Master Thesis of Francesco Viti, Università di Bologna, Italy: *Towards robust and reliable cost estimation in Train Routing Selection for real-time traffic management.*

2023   Supervision of the Master Thesis of Sonia Di Cola, Università di Bologna, Italy: *Modeling decisions of train short turning.*

2013   Supervision of first year engineering school internship of Guillaume Videlaine, École Centrale Lille, France: *Creation of perturbation scenarios for the assessment of real-time railway traffic management algorithms.*

2022   Supervision of the final Engineering School Thesis of Balraj David, École Nationale des Travaux Publics de l'État (ENTPE), France: *Robustness of RECIFE-MILP with respect to input data noise.*

2021   Supervision of the bachelor internship of Matthieu Bessoles, École centrale Lille, France: *Implementation of a mixed-integer programming linear model for on-demand shuttle management.*

2021   Supervision of the Master Thesis of Alessandro Ferrari, Università di Udine, Italy: *Studies on the applicability of the RECIFE-MILP algorithm to large instances.*

2020   Supervision of the Master Thesis of Anik Chakrabarty, CY Cergy Paris Université, France: *Optimization of service modeling for real-time railway traffic management.*

2020   Supervision of the first year Master internship of Louise Penz, Université Grenoble Alpes, France: *Design, implementation and evaluation of algorithms for the selection of alternative train routes.*

2019   Supervision of the Master Thesis of Quentin Perrachon, Sorbonne Université, France: *Model of a distributed system for railway dispatching.*

2018   Supervision of the Master Thesis of Filippo Sorino, Università Roma 3, Italy: *Studies on the applicability of the RECIFE-MILP algorithm to large instances.*

2017   Supervision of the advanced training of Elisa Marcelli, Università di Camerino, Italy: *State of the art and modeling of railway traffic as autonomous or autonomic system.*

2016   Supervision of the Master thesis of Cristina Bernardis, Università di Trieste, Italy: *Analysis of the impact of speed variation dynamics on the optimization of the real-time railway traffic management problem.*

2016   Supervision of the Master thesis of Martino Marangon, Università di Trieste, Italy: *First steps toward the analysis of the impact of speed variation dynamics on the optimization of the real-time railway traffic management problem.*

2015   Supervision of the Master thesis of Cecilia Negri, Università La Sapienza, Italy: *Analysis of the interoperability and of the automatism of big perturbations of railway traffic.*

2013   Supervision of the final internship for the bachelor of science degree of Guillaume Douchet, Université Lille 1, France: *CPLEX parameter tuning to boost the performance of a heuristic algorithm for the real-time railway traffic management problem.*

2010   Supervision of the Master thesis of Gianpiero Francesca, Università degli Studi del Sannio, Italy: *A Study on Operator Selection for a Memetic Algorithm Applied to the QAP.*

Personal skills

Languages

Italian	native language
English	proficient (spoken and written)
French	proficient (spoken and written)

Computer skills

Programming languages	ASP, SQL, Visual Basic, R, Bash, Mosel, C and C++
Modeling languages	SysML, RailML
Software	Microsoft office, xlPrint Paris, xlPrint Miami, Kofax Ascent, OpenTrack
Operating systems	Windows, Linux

Publications

Journals

[1] N.D. Versluis, P. Pellegrini, E. Quaglietta, R.M.P. Goverde, and J. Rodriguez. Conflict detection and resolution for distance-to-go railway signalling. *Transportmetrica A: Transport Science*, 0(0):1–33, 2025.

[2] P. Hosteins, P. Pellegrini, G. Marlière, and J. Rodriguez. Studies on the impact of the fixed-speed approximation for the real time railway traffic management problem. *Journal of Rail Transport Planning & Management*, 2025.

[3] N.D. Versluis, P. Pellegrini, E. Quaglietta, R.M.P. Goverde, and J. Rodriguez. Impact of track discretisation on conflict detection and resolution under etcs with onboard train integrity monitoring. *Journal of Rail Transport Planning & Management*, 35:100533, 2025.

[4] B. Pascariu, J.V. Flensburg, P. Pellegrini, and C.M. Lima Azevedo. Formulation and solution framework for real-time railway traffic management with demand prediction. *IET Intelligent Transport Systems*, 19(1):e12610, 2025.

[5] B. Pascariu, M. Samà, P. Pellegrini, A. D'Ariano, J. Rodriguez, and D. Pacciarelli. Formulation of train routing selection problem for different real-time traffic management objectives. *Journal of Rail Transport Planning & Management*, 31:100460, 2024.

[6] B. Sharma, B. Pascariu, P. Pellegrini, J. Rodriguez, and N. Chaudhary. A real-time railway traffic management approach preserving passenger connections. *IEEE Access*, 12:79066–79081, 2024.

[7] L. D'Amato, F. Naldini, V. Tibaldo, V. Trianni, and P. Pellegrini. Towards self-organizing railway traffic management: concept and framework. *Journal of Rail Transport Planning & Management*, 29:100427, 2024.

[8] R. Shahin, P. Hosteins, P. Pellegrini, P.O. Vandanjon, and L. Quadrifoglio. A survey of flex-route transit problem and its link with vehicle routing problem. *Transportation Research Part C: Emerging Technologies*, 158:104437, 2024.

[9] N.D. Versluis, E. Quaglietta, R.M.P. Goverde, P. Pellegrini, and J. Rodriguez. Real-time railway traffic management under moving-block signalling: A literature review and research agenda. *Transportation Research Part C: Emerging Technologies*, 158:104438, 2024.

[10] B. Sharma, P. Pellegrini, J. Rodriguez, and Neeraj Chaudhary. A review of passenger-oriented railway rescheduling approaches. *European Transport Research Review*, 15:14, 2023.

[11] G. Marlière, S. Sobieraj Richard, P. Pellegrini, and J. Rodriguez. A conditional time-intervals formulation of the real-time railway traffic management problem. *Control Engineering Practice*, 54(2):187–194, 2023.

[12] A. Nash, N. Coviello, G. Medeossi, T. Nygreen, P. Pellegrini, and J. Rodriguez. A multi-objective timetable development tool for railway strategic planning in norway. *Transportation Research Record: Journal of the Transportation Research Board*, 2677(1):720—729, 2023.

[13] B. Pascariu, M. Samà, P. Pellegrini, A. D'Ariano, J. Rodriguez, and D. Pacciarelli. Effective train routing selection for real-time traffic management: Improved model and aco parallel computing. *Computers & Operations Research*, 145:105859, 2022.

[14] M. Petris, P. Pellegrini, and R. Pesenti. Models and algorithms for an integrated vessel scheduling and tug assignment problem within a canal harbor. *European Journal of Operational Research*, 300(3):1120–1135, 2022.

[15] S. Deleplanque, P. Hosteins, P. Pellegrini, and J. Rodriguez. Train management in freight shunting yards: formalization andliterature review. *IET Intelligent Transportaion Systems*, pages 1–20, 2022.

[16] F. Kamenga, P. Pellegrini, J. Rodriguez, and B. Merabet. Solution algorithms for the generalized train unit shunting problem. *EURO Journal on Transportation and Logistics*, 10:100042, 2021.

[17] E. Marcelli and P. Pellegrini. Literature review toward decentralized railway traffic management. *IEEE Intelligent Transportation Systems Magazine*, 13(3):234–252, 2020.

[18] K. Keita, P. Pellegrini, and J. Rodriguez. A three-step benders decomposition for the real-time railway traffic management problem. *Journal of Rail Transport Planning & Management*, 13:100170, 2020.

[19] R. Licciardello, N. Adamko, S. Deleplanque, P. Hosteins, R. Liu, P. Pellegrini, A. Peterson, M. Wahlborg, and M. Zatko. Integrating yards, network and optimisation models towards real-time rail freight yard operations. *Ingegneria Ferroviaria*, 75(6):417–440, 2020.

[20] P. Pellegrini, G. di Tollo, and R. Pesenti. Scheduling ships movements within a canal harbor. *Soft Computing*, 23(9):2923–2936, 2019.

[21] P. Pellegrini, R. Pesenti, and J. Rodriguez. Efficient train re-routing and rescheduling: Valid inequalities and reformulation of RECIFE-MILP. *Transportation Research Part B: Methodological*, 120:33–48, 2019.

[22] T. Montrone, P. Pellegrini, and P. Nobili. Real-time energy consumption minimization in railway networks. *Transportation Research Part D: Transport and Environment*, 65:524–539, 2018.

[23] D. Arenas, P. Pellegrini, S. Hanafi, and J. Rodriguez. Timetable rearrangement to cope with railway maintenance activities. *Computers and Operations Research*, 95:123–138, 2018.

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[29] E. Quaglietta, P. Pellegrini, R.M.P. Goverde, T. Albrecht, B. Jaekel, G. Marlière, J. Rodriguez, T. Dollevoet, B. Ambrogio, D. Carcasole, M. Giaroli, and G. Nicholson. The ON-TIME real-time railway traffic management framework: A proof-of-concept using a scalable standardised data communication architecture. *Transportation Research Part C: Emerging Technologies*, 63:23–50, 2016.

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[33] A. Ellero and P. Pellegrini. Are traditional forecasting models suitable for hotels in Italian cities? *International Journal of Contemporary Hospitality Management*, 26(3):383–400, 2014.

[34] F. Mascia, P. Pellegrini, T. Stützle, and M. Birattari. An analysis of parameter adaptation in reactive tabu search. *International Transactions in Operational Research*, 21(1):127–152, 2014.

[35] P. Pellegrini and J. Rodriguez. Single European Sky and Single European Railway Area: A system level analysis of air and rail transportation. *Transportation Research Part A: Policy and Practice*, 57:64–86, 2013.

[36] R. Chevrier, P. Pellegrini, and J. Rodriguez. Energy saving in railway timetabling: A bi-objective evolutionary approach for computing alternative running times. *Transportation Research Part C: Emerging Technologies*, 37:20–41, 2013.

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[40] P. Pellegrini and D. Favaretto. Quantifying the exploration performed by metaheuristics. *Journal of Experimental & Theoretical Artificial Intelligence*, 24(2):247–266, 2012.

[41] P. Pellegrini, L. Castelli, and R. Pesenti. Secondary trading of airport slots as a combinatorial exchange. *Transportation Research Part E: Logistics and Transportation Review*, 48(5):1009–1022, 2012.

[42] A. Ellero and P. Pellegrini. Computer language efficiency via data envelopment analysis. *Advances in Operations Research*, 2011. ID 154516.

[43] L. Castelli and P. Pellegrini. An AHP analysis of air traffic management with target windows. *Journal of Air Transport Management*, 17(2):68–73, 2011.

[44] P. Pellegrini and E. Moretti. A computational analysis on a hybrid approach: quick-and-dirty ant colony optimization. *Applied Mathematical Sciences*, 3(23):1127–1140, 2009.

[45] M. Birattari, P. Pellegrini, and M. Dorigo. On the invariance of ant colony optimization. *IEEE Transactions on Evolutionary Computation*, 11(6):732–742, 2007.

[46] D. Favaretto, E. Moretti, and P. Pellegrini. Ant colony system for a VRP with multiple time windows. *Journal of Interdisciplinary Mathematics*, 10(2):263–284, 2007.

[47] D. Favaretto, E. Moretti, and P. Pellegrini. An ant colony system approach for variants of the traveling salesman problem with time windows. *Journal of Information and Optimization Sciences*, 27(1):35–54, 2006.

Book chapters

[48] T. Stützle, M. López-Ibáñez, P. Pellegrini, M. Maur, M. A. Montes de Oca, M. Birattari, and M. Dorigo. Parameter adaptation in ant colony optimization. In Y. Hamadi, E. Monfroy, and F. Saubion, editors, *Autonomous Search*, pages 191–215. Springer, Berlin, Germany, 2012.

[49] P. Pellegrini and M. Birattari. Out-of-the-box and custom implementation of metaheuristics. A case study: the vehicle routing problem with stochastic demand. In M. Köppen et al., editor, *Intelligent Computational Optimization in Engineering: Techniques & Applications*, volume 366 of *Studies in Computational Intelligence*, pages 273–295. Springer, Berlin, Germany, 2011.

Conference proceedings

[50] E. Brugger, P. Pellegrini, and F. Corman. Relations between objectives in additional train scheduling. In *2025 IEEE International Conference on Intelligent Rail Transportation (ICIRT)*, pages 50–55, 2025.

[51] C. Bai, P. Pellegrini, J. Rodríguez, and M. López-Ibá nez. Study on automatic parameter configuration to enhance real-time railway traffic management. In *2025 9th International Conference on Models and Technologies for Intelligent Transportation Systems (MT-ITS)*, pages 1–6, 2025.

[52] G. Marlière, M. Demay, P. Pellegrini, and J. Rodriguez. Decision support for dimensioning an innovative rail-road transport system. In *2025 9th International Conference on Models and Technologies for Intelligent Transportation Systems (MT-ITS)*, pages 1–6, 2025.

[53] B. Sharma, B. Pascariu, P. Pellegrini, and J. Rodriguez. Real-time rail traffic management in closed-loop: Assessment of alternative train route selection. *Transportation Research Procedia*, 2025. 27th meeting of the Euro Working Group on Transportation - EWGT 2025, Edinburgh, UK.

[54] M. Mati, S. Belmokhtar-Berraf, P. Pellegrini, J. Rodriguez, and A. Sahli. Capacity analysis for a railway node using microscopic cyclic timetabling. In *11th International Conference on Control, Decision and Information Technologies - CoDIT 2025*. IEEE Xplore, 2025.

[55] G. Marlière, X. Yi, P. Pellegrini, J. Rodriguez, and R. Pesenti. A constraint programming approach to coordinated train rerouting and rescheduling in railway traffic management. In *11th International Conference on Railway Operations Modelling and Analysis - RailDresden 2025, Dresden, Germany*, 2025.

[56] B. Pascariu and P. Pellegrini. Greedy randomized adaptive search for the real-time train routing selection problem. In *11th International Conference on Railway Operations Modelling and Analysis - RailDresden 2025, Dresden, Germany*, 2025.

[57] E. Quaglietta, P. Pellegrini, and V. Trianni. Potential analysis and recommendations for self-organising rail traffic management. In *11th International Conference on Railway Operations Modelling and Analysis - RailDresden 2025, Dresden, Germany*, 2025.

[58] N.D. Versluis, P. Pellegrini, E. Quaglietta, R.M.P. Goverde, and J. Rodriguez. Impact of track discretisation on conflict detection and resolution under etcs with onboard train integrity monitoring. In *11th International Conference on Railway Operations Modelling and Analysis - RailDresden 2025, Dresden, Germany*, 2025.

[59] X. Xiao, P. Wang, and P. Pellegrini. Researching of timetable and rolling stock circulation for a bi-directional disrupted metro line with the flexible train composition strategy. In *11th International Conference on Railway Operations Modelling and Analysis - RailDresden 2025, Dresden, Germany*, 2025.

[60] N. Coviello, G. Medeossi, T. Nygreen, P. Pellegrini, and J. Rodriguez. Integrated ant colony optimization and mixed integer linear programming for multi-objective railway timetabling. In *2023 IEEE Conference on Intelligent Transportation Systems - ITSC 2023, Bilbao, Spain*, 2023.

[61] P. Pellegrini B. David, B. Pascariu and G. Marlière. Analysis of the robustness of railway traffic management to driving behaviour noise. In *8th International Conference on Models and Technologies for Intelligent Transportation Systems (IEEE MT-ITS 2023), Nice, France*, 2023.

[62] R. Shahin, P. Hosteins, P. Pellegrini, and P.O. Vandanjon. A full factorial sensitivity analysis for a capacitated flex-route transit system. In *8th International Conference on Models and Technologies for Intelligent Transportation Systems (IEEE MT-ITS 2023), Nice, France*, 2023.

[63] F. Cerreto, P. Pellegrini, R. Chevrier, and F. Tavano. Assessing self-organization algorithms for railway traffic: the selection of three case studies for the sortedmobility research project. In *10th International Conference on Railway Operations Modelling and Analysis - RailBelgrade 2023, Belgrade, Serbia*, 2023.

[64] N. Coviello, G. Medeossi, T. Nygreen, P. Pellegrini, and J. Rodriguez. Energy-efficient multi-train operations in railway networks considering traffic perturbations. In *10th International Conference on Railway Operations Modelling and Analysis - RailBelgrade 2023, Belgrade, Serbia*, 2023.

[65] L. D'Amato, F. Naldini, V. Tibaldo, V. Trianni, and P. Pellegrini. Designing self-organizing railway traffic management. In *10th International Conference on Railway Operations Modelling and Analysis - RailBelgrade 2023, Belgrade, Serbia*, 2023.

[66] B. Pascariu, B. David, P. Pellegrini, and G. Marlére. Railway traffic optimization: Robustness to driving behaviour noise. In *10th International Conference on Railway Operations Modelling and Analysis - RailBelgrade 2023, Belgrade, Serbia*, 2023.

[67] B. Sharma, P. Pellegrini, J. Rodriguez, and N. Chaudhary. Railway rescheduling considering rerouting of connecting trains after perturbations. In *10th International Conference on Railway Operations Modelling and Analysis - RailBelgrade 2023, Belgrade, Serbia*, 2023.

[68] N.D. Versluis, P. Pellegrini, E. Quaglietta, R.M.P. Goverde, and J. Rodriguez. An approximate conflict detection and resolution model for moving-block signalling by enhancing RECIFE-MILP. In *10th International Conference on Railway Operations Modelling and Analysis - RailBelgrade 2023, Belgrade, Serbia*, 2023.

[69] X. Yi, G. Marlière, P. Pellegrini, J. Rodriguez, and R. Pesenti. Coordinated train rerouting and rescheduling in large infrastructures. In *10th International Conference on Railway Operations Modelling and Analysis - RailBelgrade 2023, Belgrade, Serbia*, 2023.

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[71] B. Pascariu, M. Samà, P. Pellegrini, A. D'Ariano, J. Rodriguez, and D. Pacciarelli. Performance evaluation of a parallel ant colony optimization for the real-time train routing selection problem in large instances. In L. Pérez Cáceres and S. Verel, editors, *EvoCOP 2022: Evolutionary Computation in Combinatorial Optimization*, volume 13222 of *LNCS*, pages 46–61. Springer, Cham, 2022.

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[74] N. Coviello, G. Medeossi, T. Nygreen, P. Pellegrini, and J. Rodriguez. A two-stage framework for strategic timetabling based on multi-objective ant colony optimization. In *9th International Conference on Railway Operations Modelling and Analysis - RailBeijing 2021, Beijing, China*, 2021.

[75] A. Kadri, P. Hosteins, P. Pellegrini, J. Rodriguez, D. de Almeida, D. Borot, F. Ramond, V. Pozzoli, and R. Chevrier. Scheduling of autonomous electric vehicles on-demand. In *9th International Conference on Railway Operations Modelling and Analysis - RailBeijing 2021, Beijing, China*, 2021.

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[77] B. Pascariu, M. Samà, P. Pellegrini, A. D'Ariano, J. Rodriguez, and D. Pacciarelli. An improved approach for train routing selection in complex rail networks. In *9th International Conference on Railway Operations Modelling and Analysis - RailBeijing 2021, Beijing, China*, 2021.

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[79] F. Naldini, P. Pellegrini, and J. Rodriguez. Real-time optimization of energy consumption in railway networks. *Transportation Research Procedia*, 2021. 24th meeting of the Euro Working Group on Transportation - EWGT 20215, Aveiro, Portugal.

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