Curriculum Vitae of Francesco Corman, Ph.D.

PERSONAL INFORMATION

Name	**PROF. DR. CORMAN FRANCESCO, PH.D**
Address	IVT- Institute for Transport Planning and Systems Swiss Federal Institute of Technology ETH Zurich HIL F 13.1 Stefano-Franscini-Platz 5 8093 Zürich Switzerland
Telephone	+41 774717899
E-mail	francesco.corman@ivt.baug.ethz.ch https://francescocorman.eu
Nationality	**Italian, Belgian**
Gender	**Male**

WORK EXPERIENCE

• Aug 2017 – current

Professor of Transport Systems
Associate professor 2023-current;   AP-TT 2017-2022

•Name of employer
Swiss Federal institute of Technology, ETH Zurich

• Main activities and research interests
Analytics, optimization and control in transport systems, focusing on operations, public transport, logistics systems

• Sept 2016 – July 2017

Senior Data Scientist

•Name of employer
IBM The Netherlands, Global Business Services

• Main activities and research interests
Advanced analytics and Optimization approaches for production, logistics, customer service and maintenance problems, proving quickly added value to customers

• January 2013– Sept 2016

Assistant Professor

•Name of employer
Transport Engineering & Logistics, Delft University of Technology, The Netherlands

• Main activities and research interests
Acquired and managed 8 research projects, 100+ kEuro as principal investigator, 10+MEuro as co-applicant; International cooperation, 6 research grants; Dissemination of research at 20+ conferences and in scientific publications. Managing 4 Researchers/PhDs, Coaching 20+ projects per year, teaching 4 courses. Research on Railways (planning, technologies, reliability, control, delays, maintenance, equity); Multimodal freight logistics, Mathematical Optimization.

• January 2013-Sept 2016

Staff Member

• Name of employer
The Dutch Research School in Transport, Infrastructure and Logistics – TRAIL

• Main activities
Research Program Management and Coordination; Railway transportation

• January 2013– Sept 2016

Guest Professor

• Name of employer
Center for industrial management, KU Leuven, Belgium

• Main activities
International cooperation, 1 research grant; Supervising a PhD, Teaching 1 course

• February 2011 – Dec 2012

Post-Doctoral Researcher

• Name of employer
Center for industrial management, KU Leuven, Belgium

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Corman Francesco*

• Main activities and research interests	Acquired, contributed and managed 6 projects of 300+ kEuro Designed master programs, 3 courses in railway, transit, supply chain: Developed international collaborations; 10+ conferences, 20+ Scientific papers Research on design, operations, control of railways & multimodal transport.
• January 2007 – Dec 2010 • Name of employer • Main activities and interests	**Ph.D. Researcher** Transport & Planning Dept, Delft University of Technology, The Netherlands Optimization of railway traffic control, signaling technologies, capacity analysis, simulation, scheduling and planning. 20+ scientific papers
• October 2006 – Dec 2006 • Name of employer • Main activities	**Researcher, Software Developer** ROMA TRE University, Rome, Italy Optimization of railway traffic control

EDUCATION

• January 2007 – Dec 2010	**Doctoral Degree (Ph.D.)**. Delft University of Technology Dissertation Title: "Real-time Railway Traffic Management: Dispatching in complex, large and busy railway networks".
• October 2004 – Dec 2006 • Notes • Principal subjects covered	**Master's degree** in Management & Automation Engineering, Roma TRE University **cum Laude**. Dissertation Title: "Routing and scheduling trains in real-time" Winner of 2006 AIRO award for best thesis in Operations Research field Winner of 2006 Galluzzi Prize for best thesis in Engineering Winner of 2006/2007 Accenture- best thesis prize in Management Engineering Operations Research, Project Management, Control, Telecommunications
• October 2001 – Sept 2004 • Principal subjects covered	**Bachelor Degree** in Computer Science Engineering, Roma TRE University Operations Research, Computer science, Control & Telecommunication System

PROJECT COORDINATION, CONTRIBUTION AND MANAGEMENT (SELECTION)	**Optimale Jahres- und Tagesfahrpläne im TMS der SBB** – Funding Innosuisse, ZHAW. 390 kCHF. **Designing Effective Coordination Mechanisms for Combined Freight Transport between Rail Freight and Cargo Sous Terrain.** Main PI: Mariana De Almeida Costa. Funding: SBB Research funds 70 KCHF **UrbanEcho - Envisioning tomorrow - A digital twin technology for sustainable urban planning in data poor regions.** Pioneer Fellowship Social Impact Acceleration Program. Recipient/PI: Grace Orowo Kagho. 150 kCHF **Innovation booster New Mobility (Supporting team)** total funding 2200 kCHF. Innosuisse. **LeRaBe - Learning Railway for Better schedules -** SBB Siemens ETH Mobility initiative, funding ETH Foundation 228 kCHF **Learning real-life constraints and objectives to interactively determine timetables optimised for robustness - Simulation-based Optimisation for Railway Robustness Improvement (SORRI).** 67kCHF. SBB Research Lab **SWITONIC, Swiss Train Optimization within NCCR Industry Collaboration.** Innosuisse+NCCR Automation. 232 kCHF **Simulation of logistics system performance.** 40kCHF. Siemens **e-bike City – DBAUG Lighthouse.** 250 kCHF. ETH Zurich

Technological development of the railway system 2050. 77 kCHF. Federal office for Transport BAV. 2021.

A reinforcement learning approach for enhancing urban mobility by considering reaction of travelers to unreliable public transport, Swiss government excellence, recipient Mariana de Almeida Costa 90 kCHF, 2021-2022

Passenger-Oriented Railway Traffic Management and Smart Passenger Information Provision. 232 kCHF ETH Postdoctoral fellowship, recipient Yongqiu Zhu. 2021-2023

RailPower! 333 kCHF, 2020-2024, SBB ETH Mobility initiative, funding ETH foundation.

Innovative measures to maximize capacity utilization of the transport network Funding: SBB Research Lab, University of St Gallen. 150 kCHF, 2020-2021

Passenger-centric optimization of public transport operations under disruptions. Funding: NWO Rubicon, Recipient Xiaojie Luan. 200 KEur, 2020-2022

NCCR Automation Dependable Ubiquitous Automation, total 26 MCHF, 2020-2024

Calibration model for train motion formulas, 46 kCHF, SBB, 2019-2020

eco4.0 (Real time optimization of train operations with focus on energy efficient traction Traktionsbasierte energieorientierte Echtzeitfahrplanoptimierung), 224 kCHF, of which 74 from Federal office for transport BAV, 2019-2020

Future Traffic Control beyond modes, 80 kCHF, SBB Research Lab, University of St Gallen, 2019-2020

DADA Dynamic data driven Approaches for stochastic Delay propagation Avoidance in railways 1.3 MCHF 2019-2024. SNSF Eccellenza

OMISM: On board Monitoring for Integrated Systems Understanding & Management Improvement in Railways. 380 kCHF, 2018-2022, SBB ETH Mobility initiative, funding ETH foundation.

Dynamic scheduling of mobile workforce, 2018-ongoing, funding Logobject AG Zurich

SMARTIES: New generation of railway traffic management systems. 280 kCHF, 2018-2022, SBB ETH Mobility initiative, funding ETH foundation.

Train rescheduling models for recovery phase of disruption management. Funding: Chinese academy of science. recipient: Yihui Wang, 2018-2019

Energy-Efficient Autonomous Driving Trains. Funding: NWO Rubicon scheme, Recipient Pengling Wang. 200 KEur, 2018-2020

Trans ITS: Public Transport Passenger Flows in the Era of ITS. Management Committee, Working Group. EU COST (TU1004). 530 kEuro. 2013-2015

ITT - Inter Terminal Transport: Advanced transport solutions for container transport between multiple terminals. Funding: Port of Rotterdam 2013

ERTMS Capacity Study: Capacity assessment of advanced signaling system on the Dutch Railway Network. Funding: Dutch Parliament, 120 kEuro, 2012

ONTIME: Optimal Networks for Train Integration Management across Europe -. 19 practitioners & academic partners. Funding: EU-FP7, 7.8 MEuro. 2013-2015

Passenger flows: Dynamic train traffic control models with passenger choices. Funding: State Key Laboratory of Rail Traffic Control and Safety, Beijing.2013

ACM - Railway Market determination: Competition and dominant positions in railway passenger and freight market. Dutch competition authority. 60 kEuro.

Integrated train & traffic control: Models for energy efficient railway traffic control. State Key Laboratory of Rail Traffic Control and Safety, Beijing. 2015

National Data Warehouse: Assessing quality requirements for data collection on the road network of the Netherlands. Dutch Ministry of Transport, 2011

Adifo NV: Process optimization in the animal feed and food industry.   Funding: IWT/KMO, 2011-2012

Punch Telematix / Trimble: Integrated solution for front end and back end truck navigation. Funding: IWT/O&O, 2011-2012

MobiRoute- Mobility and Routing: Multimodal Robust Routing Planner: KULeuven ICRI, U Gent; Be-Mobile, DUO. Funding: IWT/IBBT, 2011-2012

TRACS: Tracing Condition Status: modelling failures in railway transport infrastructures. Funding: TUDelft, Cohesion program. 50kEuro, 2016

iCAVE: integrated cooperative automated vehicle. Funding: STW, Perspectief scheme, 4MEuro, 2016

Complexity in Synchromodal Networks. Preparatory grant, NWO: CWI, TNO, port of Amsterdam

COMET-PS, Complexity in Synchromodal transport networks. NWO/TNO, CWI, TNO, Port of Amsterdam

ACADEMIC ACTIVITY (SELECTION)	

Leader of the Institute for Transport Planning and Systems (2023-ongoing)

Member of the Strategy commission of DBAUG (2023-ongoing)

Deputy Director of the master program in Spatial Development and Infrastructure Planning (RE&IS)

Committee member, in professorial search committee for "transportation and mobility planning", ETH Zurich, 2023.

General organizer for the hEART Conference 2023 - Zürich.

General organizer for the STRC Conference 2022 - Ascona.

Track organizer for the Applied Machine Learning Days – 2022 Lausanne.

Vice president of the International Association for Railway Operations Research – IAROR

Committee member, in professorial search committee for "human centric mobility", EPFL Lausanne, 2021.

General organizer for the NextRail 2019 conference – Zurich 09.2019.

Event Organizer: Current challenges for Logistics, ETH Zurich 05.2019

Event Organizer: Transport systems in the digital revolution, ETH Zurich, 03. 2018

General organizer and program chair for the 6th International Conference on Computational Logistics – ICCL 2015, Delft.

Program committee member for conferences:
ATMOS11: Algorithms for Transportation Modelling Optimization, 2011;
3rd MT-ITS and 4th MT-ITS: Modeling and Technology for ITS, 2013, 2015;
ICSNC: IEEE Conference on Networking, Sensing and Control, 2014;
TRISTAN 2016; TSL Workshop 2017, EWGT 2018, RTDM 2018, ICCL 2018;
RailNorrkoping 2019, EWGT 2020 Railways 2020, hEART 2020

Session Organizer at EURO 2013, July 2013.

General coordinator and Chair for the Informs- Railway Application Section (RAS) Problem Solving Competition, 2015 and 2016.

Committee member, Reviewer and Evaluator, Transportation Science and Logistics (TSL) Best PhD Thesis award, Informs, 2015
Evaluator, HKSTS Gordon Newell prize, 2019
Committee member, LITRA Informationsdienst für den öffentlichen Verkehr award

Invited **plenary speaker** at major events and conferences:
Easier Final Event, DTU Copenhagen (Prof Nielsen)20024
DACH transport conference, Innsbruck (prof.Mailer) 2024
Incomplete information in railways- 7th International Symposium on railway operations research, Beijing Jiaotong November 2020
DACH transport conference, Dornbirn (prof.Gronalt) 2019
Integrated operations and maintenance scheduling, Smart Maintenance Days 2018
Routing vehicles and passengers in public transport networks. Swiss OR Days 2018.
Routing & scheduling in transit networks. Transport summit, DTU Copenhagen 2018.
Strategic Interactions in Microscopic Delay Management - 4th International Symposium on railway research, Beijing Jiaotong October 2017
Using Wheel impact Load Detectors for condition-based maintenance of railway wheels, 4th Int. Symposium on Railway Research -Beijing Jiaotong Oct 2017
Optimizing trains or passengers? Dagstuhl seminar Algorithmic Methods for Optimization in Public Transport, April 2016
Passenger assignment in railway networks; COST, Paris May 2015

SUPERVISION, LEADERSHIP, MANAGEMENT	**Guest Editor**: Transportation Res C (Advanced artificial intelligence, optimization and control for railway transport) IEEE Open Journal of ITS (Robustness and resilience of transport networks to disruptions) Journal of Rail Transport Planning and Management (Practical value of Railway Operations Research) Journal of Advanced Transportation (Simulation and Optimization for Railway Operations Management) Transportation Res E (Computational Logistics at Work) Transportation Res C (Integrated railway optimization model and algorithms) Public Transport: Planning and Operations (Modeling and technologies for ITS Lecture Notes in Computer Science (proceedings of ICCL 2015 Conference)

Deputy Editor, IET Intelligent Transport Systems
Associate Editor, Open Journal on Intelligent Transportation Systems (IEEE)
Associate Editor, journal of Urban Rail Transit (Springer)
Associate Editor, journal of Smart and Resilient Transportation (Emerald Press)
Editorial Adv Board, Journal of Rail Transport Planning and Management (Elsevier)
Editorial Adv Board, Transportation Research, Part E (Elsevier)
Editorial Adv Board, International Journal of Railway Research (IUST)
Editorial Adv Board, Transportation section, Sustainability (MDPI) 2018-2020
Editorial Board, International Journal of Rail Transportation
Editorial Board, Frontiers in Future Transportation (2019-2020)

National Representative for the Netherlands (MC), EU COST TUD1004 TransITS: Modelling Public Transport Passenger Flows in the Era of ITS.

Committee Member of the AR030 Railroad Operating Technologies, Transportation Research Board 2015-2021

Founding member of the Center for Sustainable Future Mobility, ETH Zurich
Committee Member of the ABJ80 Statistical Methods, Transportation Research Board 2020-2024
Friend of Transportation Research Board Committees:
  AR010 Intercity Passenger Rail
  AT045 Intermodal Freight Transport
  AT050 Intermodal Freight Terminal Design and Operation
Informs Member
Staff member and alumnus of The Netherlands Research School in Transport Infrastructure and Logistics –TRAIL
Member of the Transport Institute at Delft University of Technology, editor of the transport blog for the faculty of mechanical engineering
Initiator, organizer and manager of a research exchange program between TUDelft Transport Institute and Beijing Jiaotong University: supervision of two researchers from each side; obtained grants for two PhD students.
Founding Member and coordinator of the Chapter of The Italian Operation Research Society: Optimization in Public Transport and Shared Mobility (AIRO-OPTSM).
External Expert, mobility, InCube ETH Entrepreur,1st place, ETH-MIT challenge 2018
ETH Risk Center, Member
External Expert, scientific advisory committee. for the Swiss Federal Statistical Office (BFS/OFS), for Mobility
Member of the steering committee, project SmartRail 4.0 (2018-2020)
Member of the scientific board (Wissenschaftsrat) VSS Schweizerischer Verband der Strassen- und Verkehrsfachleute
Member, UITP and part of the academic network
Member VÖV
Fellow of the institution of Railway Signalling Engineers, IRSE

AWARDS, NOMINATIONS, POSITIONS IN APPEAL	Nomination for the ALEA Award 2020 – The Art of leadership Award, ETH Zurich.

Patent Application (Hinterlegungbeschreibung): Nold M, Corman F (2019) Schienenverkehrdirektwarnsystem. Eidgenössisches Institut für Geistiges Eigentum; Aktenzeichen: bo/01376/19.

(supervision) Zhu; Winner of **2nd place for the best young research 2021, at the International conference for Railway modeling and Analysis – RailBeijing**

(supervision) Luan; Winner of **3rd place for the best young research 2021, at the International conference for Railway modeling and Analysis – RailBeijing**

(supervision) Leng; Winner of **3rd place for the best paper 2020, in the student paper competition organized by the Railway Application Section, INFORMS**

(supervision) Benefits of a dynamic impact zone when dealing with train conflict, S. Van Thielen; Winner of **2nd place for the best paper 2017, in the student paper competition organized by the Railway Application Section, INFORMS**

Anna Valicek Award, Winner, for the paper **Metaheuristics for efficient aircraft scheduling and re-routing at busy terminal control areas**, coauthored by Samà, D'Ariano, Pacciarelli, AGIFORS oct 2016

Best Paper award for **Stochastic prediction of train delays with dynamic Bayesian networks**, coauthored by Kecman, Peterson, Joborn, CASPT 2015

Nominated (top 5) for best paper award for **Train Delay and Passenger Travel Time Minimization in Real-Time Railway Traffic Management**, CASPT 2015

Grant for research, international mobility and international collaboration, State Key Laboratory of Railway Control and Safety, Beijing, China, 2015; and 2013

(supervision) Optimization and equity in railway transport systems, X. Luan, Winner of **2nd place for the best paper 2014, in the student paper competition organized by the Railway Application Section, INFORMS**

Grant for research, international mobility, funding **EU COST STSM**, University of Luxembourg, optimization in sensor location and ITS, 2014

Interviewed for a NWO-STW VENI Grant proposal, the most prestigious personal funding scheme for young researchers in the Netherland, 2013

Nominated (top 6) for best paper award for "**Railway line capacity consumption of different railway signalling systems under scheduled and disturbed conditions**" 5th ISROR – RailCopenhagen, 2013

Nominated (top 5) for the best paper award for "*Stochastic shortest path with correlation effects*" at the Vervoer Logistieke Werkdagen, Venlo, 2012

Ranked winner, grant "Rita Levi Montalcini" Italian Research Council, 2017

Eligible candidate for an assistant professor in Intelligent Networks, Center for Industrial Management, KULeuven, 2012

Recipient of an assistant professorship (tenure track) in Transport and Logistics, Maritime and Transport Technology, TUDelft, 2012

Grant for Post-Doctoral research 3 years, awarded by the FWO –Research Foundation Flanders, 2012

Nominated (top 5) for the EDDA Award for the best PhD Thesis in operations research, the *Association of the European Operational Research Societies 2012*

Nominated (top5) for the best paper award for "*Dispatching trains during seriously disrupted traffic situations*", 8th IEEE ICNSC Conference, 2011

Best Paper award for the work "*A tabu search algorithm for rerouting trains during rail operations*", by the Railway Application Section, INFORMS, 2007

Best master's thesis in operations research, AIRO, Italian Association for Operations Research, 2007

Best master's thesis prize in management engineering, Accenture, 2006

Galluzzi Prize for best thesis in Engineering, University "Roma TRE", 2006

Teaching assistant fellowship, by University of Rome "Roma TRE, 2005

POST DOCS AND EARLY CAREER RESEARCHERS	**Supervisor** (ETH Zurich) on: Flexible models for integrated optimization of public transport services, funding NCCR: **B. MARTIN-IRADI.** Analytics for transit passengers, funding ETH: **A.D. MARRA** Artificial Intelligence for railway traffic, funding ESKAS-Swiss Excellence: **M. COSTA** Smart railway optimization and information provision, funding ETH: **Y. ZHU** Stochastic prediction of railway operations, funding SNF: **P. HUANG** Incorporating Agent based models in railway traffic operation, funding ETH: **N. LENG** Passenger Centric Railway optimization, funding ETH, NWO Rubicon+ETH: **X LUAN** Spatial planning and transport implications, funding ETH: **M. SOLTANIEHHA**

Stochastic optimization of railway operations, funding SNF: **A. TRIVELLA**
Online optimization for quantitative logistics, funding ETH: **J. DECERLE**
Energy efficient train operations, funding SCCER+ETH: **V. DE MARTINIS**
Energy efficient automated train operations, funding NWO Rubicon+ETH: **P. WANG**

PHD STUDENTS
Daily Supervisor, Promotor (ETH Zurich) on:

Non discrimination in railway traffic control (extern): **S. GIOIA**
Resilience of transport systems, funding ETH: **J. LORDIECK**
Optimization in mobility systems, funding ETH: **V. KLASOVITÁ**
Control in transit networks, funding NCCR+ETH, **F. FUCHS**
Optimization in railway systems, funding ETH, **J. TREPAT BORECKA**
Stochastic railway traffic management, funding ETH+SNF **M. JUSUP**
Energy efficiency of innovative railway systems, funding ETH+BAV: **M. NOLD**

Enhancing Decision-Making in Railway Maintenance and Inspection through the Integration of On-Board Monitoring (OBM) Technique into Infrastructure Management, funding ETH: **Tzu-Hao YAN, defended on 23.01.2024**

Uncertainty-aware predictions of Train delay in real-time, funding SNF: **Thomas SPANNINGER, defended on 27.11.2023**

Practical Automated Railway Scheduling – Exploiting Decomposition, Infeasibilities and Recurrent Situations, funding ETH: **Florin LEUTWILER, defended on 10.10.2022**

Information-mediated control of transit networks, funding NCCR+ETH **Mahsa RAHIMI 2019-2021**

Quantification And Prediction Of Variability In Public Transport Operations, funding ETH: **Beda BÜCHEL, defended on 09.07.2021**

Tracking Passengers To Analyse Travel Behaviour During Public Transport Disturbances, funding ETH: **Alessio Daniele MARRA, defended on 12.07.2021**

The role of information to passengers in public transport disruptions, funding ETH+CSC: **Nuannuan LENG, defended on 02.09.2020**

Daily Supervisor and Co-promotor (TUDelft) on:
Railway wheel defect identification, funding Iranian Ministry of Science: **Alireza ALEMI,**
defended on 20.01.2019

Container transport inside the port area and to the hinterland, funding Chinese Ministry of Science, **Qu HU**, Defended on 01.07.2019

Traffic Management Optimization of Railway Networks, funding Chinese Ministry of Science, **Xiaojie LUAN**, Defended on 01.07.2019

Co-promotor (KULeuven) on
Conflict Prevention Strategies for real-time railway traffic management, funding Infrabel: **Sophie VAN THIELEN**. Defended on 20.12.2018

Member of the Doctoral Examination Committee for projects on:

Optimization of shared on-demand transportation. **Zahra GHANDEHARIOUN** (ETH Zurich)

Max-plus modeling and simulation of traffic on mass-transit lines: application to skip-stop policy and line with a junction. **Rodolphe FARRANDO** (Université Gustave Eiffel)

Application of Predictive Analytics for Shunting Yard Delays. **Niloofar MINBASHI** (KTH Stockholm)

Improving Environmental Sustainability of Regional Railway Services. **Marko KAPETANOVIC** (TU Delft)

Increasing the effectiveness of recovery strategies in real-time train rescheduling. **Marta Leonina TESSITORE** (Uni Roma Tre)

Modélisation et prévision des variables d'exploitation ferroviaire et des flux de voyageurs en zone dense - Modeling and forecasting of railway operations variables and passenger flows for dense traffic areas. **Rémi COULAUD** (Université Paris-Saclay)

Public transport demand and supply management under uneven passenger distributions. **Soumela PEFTITSI** (KTH Stockholm)

Advances in Data-Driven Decision-Making: A Mathematical Optimization Perspective. **Daniel TSCHERNUTTER** (ETH Zurich)

Passenger Train delay Prediction using Machine Learning Methods. **Pipatphon LAPAMONPINYO** (University of Illinois at Chicago)

Controllability of complex flow networks. **Xavier MAZUR** (Uni Luxembourg)

Energy efficient Train timetabling. **Gerben SCHEEPMAKER** (TUDelft)

Optimization and equilibrium problems with discrete choice models. **Stefano BORTOLOMIOL** (EPFL)

Parallel approaches for railway traffic management. **Sai Prashant JOSYULA** (Blekinge Institute of Technology)

Synchronization control of perturbed passenger and freight operations. **Wenhua QU (**TUDelft)

Demand-responsive Disruption Management in Mass Transit Systems – An Agent-Based Simulation Model to Assess Disruptions and Resilience-Enabling Rescheduling Measures. **Steffen BLUME** (ETH Zürich)

Combinatorial optimization for integrating rolling stock management and railway traffic scheduling in passenger stations. **Franck KAMENGA** (University Gustave Eiffel, Lille)

Real-time rescheduling of trains to smooth traffic flows. **Ajini GALAPITAGE** (University of South Australia)

Max-plus modeling of traffic on passenger railway lines with a junction: fundamental diagram and dynamic control. **Florian SCHANZENBÄCHER** (École des Ponts ParisTech)

Measuring, Predicting and Controlling Disruption Impacts for Urban Public Transport. **Menno YAP** (TUDelft)

Timetable integration in public transport planning. **Joao FONSECA** (DTU)

Towards Mobility-as-a-Service: a cross-case analysis of public authorities' roles in the development of ICT-supported integrated mobility scheme. **Maxime AUDOUIN** (EPFL)

Short-turning Trains during Full Blockages in Railway Disruption Management. **Nadjla GHAEMI** (TUDelft)

Integration of Passenger demand in railway timetable rescheduling. **Stefan BINDER** (EPFL)

Robust Railway Timetabling. **Thijs DEWILDE** (KULeuven)

Decentralized traffic control. **Marco RINALDI** (KULeuven)

Algorithms for job shop rerouting. **Marcella SAMÀ** (Uni Roma Tre)

Management and supervision of project for **exchange PhD Students:**
Reliability in railway traffic, **M. KHARKEABADI** (Iranian Ministry of Railways), 2013
Optimization models for railway control, **M. SAMÀ** (Roma TRE), 2014
Reliability & Disruptions in High Speed railways, **P. XU** (Southwest Jiaotong),2015
Multi scale train routing and timetabling, **Z. LIAO** (Beijing Jiaotong), 2018
Capacity Estimation for High Speed Railways, **Y. LI** (Tongji Shanghai), 2018
Integrated Rolling stock management, **X. HONG** (Beijing Jiaotong), 2018
Passenger centric railway traffic, **S. LONG** (Beijing Jiaotong), 2019
Social routing in public transport, **O. EIKENBROEK** (U Twente), 2020
Optimization in network design **D. CAZZARO** (DTU Copenhagen), 2021
Robust Transit Operations Planning **C. GONG** (Beijing Jiaotong) 2022
Prediction of public transport operations **F. GALLO** (University Genova), 2022
Information for Transit Assignment **L. BRESCIANI MIRISTICE** (Sapienza Rome), 2022

MASTER STUDENTS SUPERVISION

ETH Zurich

Deciphering Movements in Zurich: Understanding Trip Purpose Share with MATSim. J. Pfaffen

Handling Periodicity in Non-Periodic Microscopic Timetabling. J. Mathias

Combining Line Planning and Timetabling to Ensure Equitable Connections from Origin to Destination. J. Bender

Swiss Metro: Alternative Line Plans Maximising Passenger and Vehicle Efficiency. L. Keller

The impact of weather on urban transport demand: An analysis of automated count data in Zürich. A. Pleisch

Profitability of using electric bus fleets: A case study of Kyoto. K. Bottinelli

Tradable Mobility Credits for Long-Distance Travel in Europe – Impacts on the Modal Split between Air, Rail and Car, S. Tanner (exchange to TUDelft)
  LITRA Prize for best master thesis in public transport in Switzerland, 2022;

Descriptive dynamics of online workforce scheduling problem. M. Uhlmann

Integration of Disruptions in Railway Planning, F. Fuchs (exchange to TUDelft)
  LITRA Prize for best master thesis in public transport in Switzerland, 2022;
  ASCE best master thesis;
  Willi Studer prize for best student in RE&IS

Benders cuts for Railway Traffic Management, G. Bonet Filella

Benchmarking algorithms for energy efficient train operations, M. Muggli

Railway energy simulation, for peak optimization, D. Sanchez
  LITRA prize for best master thesis in public transport in Switzerland 2021

Estimating realized railway capacity, J. Lordieck
  Willi Studer prize for best student in RE&IS;
  ETH Culmann Preis

Realized public transport usage during COVID, L. Sun

Equity in traffic routing, X. Sun

Communication of bus arrival time predictions to users, S. Fischer

Pedestrian management at crowded events, M. Nehmiz

Long distance mode detection in tracking, O. Schweizer

Loading prediction in bus systems, L. Jamar

Agent Based modelling of information dissemination in disruption, A. Scherer

Signalanalyse des Schwingweges von Schienen, S. Pletscher

Evaluation of energy systems for railways, D. Trachsel

Evaluation of energy systems for railways, J. Meyer

Alternative approaches for timetabling long distance train traffic, J Amstutz
  Willi Studer prize for best student in RE&IS;
  LITRA prize for best master thesis in public transport in Switzerland 2019

Influential variables for short term passenger forecasts at train stations. J Weibel
  VSS prize 2020

Passenger interaction towards railway delays, K. Gysin, July 2018

Mikrosimulation von Shared Space auf Hauptverkehrsachsen, T. Schmid, Feb 2018
  Willi Studer prize for best student in RE&IS;
  VSS prize 2017.

The role of alternative routes in pedestrian transport, A. Weber, Feb 2018

Passenger flows at train stations, A. Lunardi, March 2018

TUDelft
Synchromodal network design and operations, A. Pouliasi, July 2016

Passenger-oriented transit control, A. Gavriilidou, Sept 2016

Container Storage Optimization at ECT, M. Vester, June 2016

Human factors in container transportation, port of Rotterdam, R de Jong, Sept 2016

Maintenance for offshore structures, TOTAL, R. Haans, March 2016

Dynamic multimodal freight assignment models, FloraHolland, Z. Chen, Dec 2015

Operations management, GE Healthcare V Knops, August 2015

Equity in Air traffic operations, M. Tripathy, August 2015

Public Transport with automated Vehicles, K Winter, August 2015 (cum laude)

Rail freight terminal design, EMO terminals, L. Van De Water, July 2015

Maintenance of tram systems, HTM The Hague, S. Kraijema, June 2015

Logistic distribution networks design, Heineken R. van Blijenburgh, March 2015

Capacity assessment for light rail, HTM The Hague, T. Jongerius, December 2014

Dynamic Railway Traffic management, NS, N. de Vries, May 2014

Inter Terminal Transport, port of Rotterdam, H. Schröer, February 2014

Inter Terminal Transport, port of Rotterdam, F. Nieuwkoop, October 2013

KULeuven
Flexible Railway Timetables, A. Clijsters, Sept. 2013

Railway Simulation, S. Gijsenbergh, July 2013, **TML Thesis Prize 2013**

Ridesharing models, P. Boyen, J. Broekhoven, July 2012

Università di Pisa (remote)
Online scheduling of mobile workforce, M. Minafi Varkiani, Sept– Dec 2019

Università Napoli (exchange)
Multimodal traffic control, A. Romano, July-Sept 2019

Roma Tre University (exchange)
Stochastic energy efficient train driving, D. Palandra, March-September 2021

Performance of railways in bottlenecks and disruptions, F. Bigi, July-Sept 2019

Passenger flows in delayed railway networks, E. Gadaleta, July-Sept 2019

Models for energy efficient railway traffic scheduling, A. Montalto April-July 2018

Degradation trending and scheduling maintenance, G. Centulio, June-Sept 2016

Passenger flow optimization in railways; A. Marra, June-August 2015

Job shop rerouting heuristics, A. Toli, Sept-Dec 2014

Job shop models for train rerouting, G. Zaninotto Oct-Dec 2013
  Operation Research Society (AIRO) Best master thesis award 2013

Passenger flows models in railways, F. Sabene, May-August 2013

Beijing Jiaotong University (Exchange)
High speed railway delays, Jingwen Guo, March 2015

Optimization and equity in railway transport systems, X. Luan, March 2014;
  Winner of 2nd place for the best paper 2014, in the student paper competition organized by the Railway Application Section, INFORMS

BACHELOR STUDENTS SUPERVISION (selection)

Predicting Train Delays by means of Time Series Analysis. Fiona Arnet, 2022.
  LITRA Prize for best bachelor thesis in Public Transport 2022

2021-onwards	**Advisory Board Member, master of advanced study in mobility of the future,** ETH Zurich**.**
2019-onwards	**Deputy Director, certificate of advanced studies in transport engineering,** ETH Zurich**.**
2019-onwards	**Master of advanced studies in spatial planning,** lecturer, ETH Zurich**.**
2018- onwards	**Deputy Director of studies, Master Course Spatial Development and Infrastructure Systems (RE&IS)**; ETH Zurich.
2017- onwards	**Course coordinator, lecturer,** Public Transport Design and Operations, Public Transport and Railways; Transport Systems; ETH Zurich.
2018	Attendance of the "Teaching at ETH: Committed and skilled", Continuing education programme for Assistant Professors
	University Teaching Qualification, TUDelft, 2015.
2017	**Guest lecturer, Beijing Jiaotong University** Railway Traffic management
2011-2013	**Member of the Permanent Education Committee** (POC) for Master in Traffic, Logistics and Intelligent Transportation System, KULeuven
2014-2016	**Coordinator** for the faculty of mechanical engineering: Interdisciplinary project, Transport, Infrastructure and Logistics Master, TUDelft
2013-2016	**Lecturer, Course coordinator**: Introduction to Transport Engineering and Logistics; Quantitative Methods for logistics (TUDelft)
2012- 2016	**Lecturer**, Teaching Assistant**:** Masterclass Transport Engineering & Logistics, Control of Intelligent Transport Infrastructure, Introduction to TIL; Bachelor End Project. Mechanical Engineering & Transport, Infrastructure and Logistics Master (TUDelft)
2014	**Guest Lecturer,** Intelligent Transportation System; Traffic Planning and Management; Transport and Mobility, University of Luxembourg
• 2011/12 - 2015/16	**Course coordinator, Guest Lecturer**, Teaching Assistant: Public Transport Model and Operations; Integrated Practicum on Logistic Organization of Public Transport; Supply Chain Engineering. Master in Traffic, Logistics and Intelligent Transportation System, KULeuven
• 2010	Teaching Assistant Verkeerskunde Basis, Master in Civil Engineering, KULeuven
• 2008-2010	Teaching assistant: Design and Control of Public Transport Systems; Railway Traffic Management, Master in Transport and Planning, Master in Transportation Infrastructure and Logistics, TUDelft
• 2005	Teaching assistant, Lab teacher: Automatic Control 1, Automation Network and Systems (Bachelor degree in Informatics Engineering), Roma Tre University

MOTHER TONGUE **Italian, Near-Native in French**

English

Reading	Writing	Verbal
Excellent	Excellent	Excellent

Dutch

Reading	Writing	Verbal
Good	Fair	Fair

Spanish	Reading	Writing	Verbal
	Good	Fair	Fair

German	Reading	Writing	Verbal
	Good	Fair	Fair

SOCIAL AND
ORGANIZATIONAL SKILLS
.

Good relation and communication skills acquired in several months of team working
Capability to manage and organize activities, people, resources, acquired by periods of responsibility in work management and organization;
active participation in PhD Society Leuven; YoungDelft
Mentor and coach within PhD Startup and TUDelft Graduate school

TECHNICAL SKILLS
AND COMPETENCES

Excellent knowledge of Java, C++/C, C#, simulations, parallel computing, Matlab, PHP, Python, Linux, SPSS Modeler, R, MS Windows, Office suite

ARTISTIC SKILLS
AND COMPETENCES

Sport: Trekking/Hiking, Cycling
Hobbies: Photography, Graphic arts

PUBLICATION LIST

PHD THESIS

F. Corman (2010). **Real-time Railway Traffic Management: Dispatching in complex, large and busy railway networks**. PhD Thesis, TRAIL Thesis Series 2010/14.
Defended on 10/12/2010. Promoter: Prof.Dr.-Ing I.A. Hansen, Transport and Planning Department, Delft University of Technology.

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ISI web of science: h-index 33;   3289 citations
Scopus: h-index: 36;   4001 citations
Google scholar: h-index 42;   6132 citations
(30.11.2023)
150+ scientific articles in 15 year research.
Currently about 700+ citations/year in Google scholar

PUBLICATIONS IN JOURNALS OR BOOKS WITH IMPACT FACTOR

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116. Huang P., Shu L., Corman F., (2024) Explainable Train Delay Propagation: A Graph Attention Network Approach. Transportation Research, Part E.
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97. Hong X., Meng L., Corman F., D'Ariano A., Veelenturf L.P., Long S. (2019) Robust Capacitated Train Rescheduling with Passenger Reassignment under stochastic disruption duration. Proceedings of The international Conference on Railway Operations Modeling and Analysis Railnorrkoping

96. Luan X., De Schutter B., van den Boom T., Meng L., Lodewijks G., Corman F. (2019) Distributed optimization approaches for the integrated problem of real-time railway traffic management and train control. Proceedings of The international Conference on Railway Operations Modeling and Analysis Railnorrkoping

95. Büchel B., Partl T., Corman F. (2019) The Disruption at Rastatt and its Effects on the Swiss Railway System. Proceedings of The international Conference on Railway Operations Modeling and Analysis Railnorrkoping.
Selected in the top 6 papers.

94. Vansteenwegen P., Van Thielen S., Corman F. (2019) A conflict prevention strategy for large and complex networks in real-time railway traffic management. Proceedings of The international Conference on Railway Operations Modeling and Analysis Railnorrkoping

93. De Martinis V., Corman F. (2019) Online calibration of train motion models: towards the era of bespoke control solutions. Proceedings of The international Conference on Railway Operations Modeling and Analysis Railnorrkoping

92. Wang P., Trivella A., Corman F. (2019) Train Trajectory Optimization with Consideration of Human Operator Needs and Parametric Uncertainties. Proceedings of The international Conference on Railway Operations Modeling and Analysis Railnorrkoping

91. Leutwiler F., Corman F. (2019) A Survey on Decomposition Principles and Methods for the Problem of Railway Traffic Management. Proceedings of The international Conference on Railway Operations Modeling and Analysis Railnorrkoping

90. Corman F., Bosina E., Meeder M., Thurau J., Giacomini C., Longo G., Lunardi A. (2019) Making Great A Connection Terminal: Interactions Between Rail Schedule And Terminal Layout Improvement. Transportation Research Board Meeting

89. Long S., Meng L., Corman F. (2019) Optimizing Schedule of extra metro trains to serve delayed passengers from high-speed trains. Transportation Research Board Meeting

88. Cuneo V., Nigro M., Carrese S., Ardito C. F., Corman F. (2018) Risk Based, Multi Objective Vehicle Routing Problem For Hazardous Materials: A Testcase In Downstream Fuel Logistics. Proceedings of the EURO Mini Conference on "Advances in Freight Transportation and Logistics", Padova.

87. Hao W., Meng L., Veelenturf L., Long S., Corman F., Xiaoyong N. (2018) Optimal reassignment of passengers to trains following a broken train. International Conference on Intelligent Rail Transportation (ICIRT 2018), Singapore, December 12-14, 2018

86. Sessa P.G., De Martinis V., Corman F. (2018) A Hybrid Dynamic-Kinematic EKF for Train Trajectory Estimation. IEEE Conference on ITS, Maui.

85. Corman F. (2018) Strategic interactions between minimization of train delays and passenger assignment in Microscopic Railway Delay Management CASPT 2018 – Conference on advanced systems for Public Transport

84. Van Thielen S., Corman F., Vansteenwegen P. (2018) Exploring the dynamic impact zone for conflict prevention in real-time railway traffic management CASPT 2018 - Conference on advanced systems for Public Transport

83. Marra A.D., Becker H., Axhausen, K.W., Corman F. (2018) Passive tracking of passengers to analyse public transport mobility in case of disturbances. CASPT/Transit Data 2018

82. Sessa P.G., De Martinis V., Bomhauer-Beins A., Weidmann U., Corman F. (2018) Hybrid stochastic approaches for train trajectory reconstruction. CASPT 2018

81. Leng N., De Martinis V., Corman F. (2018) Agent-based simulation approach for disruption management in rail schedule CASPT 2018, Conference on advanced systems for Public Transport

80. Luan X., De Schutter B., van Den Boom T., Corman F., Lodewijks G. (2018) Distributed optimization method for real-time railway traffic management. IFAC CTS Symposium.

79. Luan X., De Schutter B., Corman F., Lodewijks G. (2018) Integrating Dynamic Signalling Commands Under Fixed-Block Signalling Systems Into Train Dispatching Optimization Models. Proceedings of the Transportation Research Board Meeting, Washington DC

78. De Martinis V., Toletti A., Corman F., Weidmann U.A., Nash A. (2018) Feedforward tactical optimization for energy efficient operation of freight trains: the Swiss case. Proceedings of the Transportation Research Board Meeting, Washington DC

77. Hu Q., Corman F., Wiegmans B., Lodewijks G. (2018) Optimization of Inter-modal Rail Transport within a Port Area and reaching the hinterland. Proceedings of the Transportation Research Board Meeting, Washington DC

76. Samà M., Corman F., D'Ariano A., Pacciarelli D. (2017) Coordination of scheduling decisions in the management of airport airspace and taxiway operations. Proceedings of ISTTT 22, Chicago, USA

75. Hu Q., Wiegmans B., Corman F., Lodewijks G. (2017) Optimization of Inter-modal Rail Transport in a Port Area. Proceedings of ICCL 2017, Southampton, UK.

74. D'Ariano A., Pacciarelli D., Samà M., Corman F. (2017) Microscopic Delay Management: Minimizing Train Delays and Passenger Travel Times during Real-Time Railway Traffic Management, Proceedings of the 5th International Conference on Models and Technologies for Intelligent Transportation Systems, MT-ITS 2017, (pp. 1–6), 26–28 June 2017, Naples, Italy.

73. Centulio G., Meng L., D'Ariano A., Corman F. (2017) Robustness and stability of integrated stochastic optimization approaches for scheduling trains and railway infrastructure. 2nd European Conference on Stochastic Optimization, Roma

72. Corman F., D'Ariano A., Samà M., Pacciarelli D. (2017) Strategic interactions in passenger-oriented railway traffic control, Swiss Transport Research Conference, Ascona.

71. De Martinis V., Corman F., Toletti A., Weidmann U.A. (2017) How to make freight trains more energy-efficient during operation? Swiss Transport Research Conference, Ascona.

70. Samà M., D'Ariano A., Pacciarelli D., Corman F. (2017) Real-time near-optimal train scheduling and routing in complex railway networks. TSL society Conference.

69. D'Ariano A., Corman F., Samà M., Pacciarelli D. (2017) Microscopic Delay Management: Minimizing Train Delays and Passenger Travel Times during Real-Time Railway Traffic Control.5th IEEE Conference on Models and technologies for ITS, Naples.

68. Luan X., Corman F., Wang Y., Meng L., Lodewijks G. (2017) Integrated Optimization of Traffic Management and Train Control for rail networks Proceedings of ISROR 17 – Raillille

67. Qu W., Corman F., Lodewijks G. (2017) The Real Time Traffic Control with Mixed Passenger and Freight Flows. Proceedings of ISROR 17 – Raillille

66. Van Thielen S., Corman F., Vansteenwegen P. (2017) An efficient heuristic for real-time train rescheduling and local rerouting. Proceedings of ISROR 2017 - Raillille.

65. Xu P., Corman F., Peng Q., Luan X. (2017) A Timetable Rescheduling Approach And Transition Phases For High-Speed Railway Traffic During Disruptions. Annual meeting of the transportation research Board, Washington DC.

64. Tripathy M., Samà M., Corman F., Lodewijks G. (2016) Impact of collaborative decision making in optimized air traffic control: a game theoretical approach. Proceedings of ICCL 2016, Lisbon, Portugal.

63. Luan X., Corman F., Lodewijks G. (2016) Integrated Optimization of Traffic Management and Train Control. Proceedings of hEART symposium, Delft, The Netherlands

62. Hu Q., Luan X., Corman F., Lodewijks G. (2016) A tabu search algorithm for inter-terminal container transport. Proceedings of IFAC Symposium on Control in Transportation Systems (CTS), Istanbul, Turkey

61. Xu P., Corman F., Peng Q. (2016) Analyzing Railway Disruptions and Their Impact to Delayed Traffic in Chinese High-Speed Railway. Proceedings of IFAC Symposium on Control in Transportation Systems (CTS) Istanbul, Turkey

60. Samà M., D'Ariano A., Pacciarelli D., Corman F. (2016) Lower and upper bound algorithms for the real-time train scheduling and routing problem in a railway network Proceedings of IFAC Symposium on Control in Transportation Systems (CTS), Istanbul, Turkey

59. Rinaldi M., Corman F., Viti F. (2016) Network observability information maximization through ad-hoc route enumeration approaches. Proceedings of the 9th TRISTAN symposium, Aruba.

58. Alemi A., Corman F., Lodewijks G. (2016) Monitoring of the railway wheel wear by means of the Wheel Impact Load Detector. Proceedings of The Third International Conference on Railway Technology, Cagliari, Italy.

57. Samà M., D'Ariano A., Toli A., Pacciarelli D., Corman F. (2015) Metaheuristics for real-time near-optimal train scheduling and routing, Proceedings of IEEE ITSC Conference 2015, Canaria.

56. Corman F., Pacciarelli D., Samà M., D'Ariano A. (2015) Railway Traffic Control with minimization of passengers' discomfort. Proceedings of ICCL - International conference on computational Logistics, Delft, the Netherlands

55. Qu W., Corman F., Lodewijks G (2015) A review of real time railway traffic management during disturbances. Proceedings of ICCL - International conference on computational Logistics, Delft, The Netherlands

54. Hu Q., Corman F., Lodewijks G. (2015) A Review of Intermodal Rail Freight Bundling Operations. Proceedings of ICCL - International conference on computational Logistics, Delft, The Netherlands

53. Corman F., Xin J., Toli A., Samà M., D'Ariano A., Lodewijks G., Negenborn R.R. (2015) Optimizing hybrid operations at large-scale automated container terminals. Proceedings of MTITS 2015, Budapest.

52. Samà M., D'Ariano A., Toli, A. Pacciarelli. D. Corman F. (2015) A variable neighborhood search for optimal scheduling and routing of take-off and landing aircraft. Proceedings of MTITS 2015, Budapest.

51. Viti F., Rinaldi M., Cantelmo G., Corman F. (2015) Improving the efficiency and reliability of demand estimation from traffic counts using information on network observability. Proceedings of 6th INSTR conference, Nara, Japan.

50. Corman F., Quaglietta E., Goverde R.M.P. (2015) An experimental analysis of reliability resilience and robustness in closed loop railway traffic control. Proceedings of 6th INSTR conference, Nara, Japan.

49. Jongerius T., Corman F., Lodewijks G. (2015) A flexible simulation model for light-rail operations Proceedings of CASPT 2015 Conference, Rotterdam, The Netherlands

48. Corman F., D'Ariano A., Pacciarelli D., Sabene F., Samà M. (2015) Train Delay and Passenger Travel Time Minimization in Real-Time Railway Traffic Management. Proceedings of CASPT 2015 Conference, Rotterdam, The Netherlands

47. Kecman P., Corman F., Peterson A., Joborn M. (2015) Stochastic prediction of train delays with dynamic Bayesian networks. Proceedings of CASPT 2015 Conference, Rotterdam, The Netherlands.
Best paper award.

46. Rinaldi M., Corman F., Viti F. (2015) Assessing the effect of route information on network observability applied to sensor location problems. Proceedings of the Euro Working Group on Transportation – EWGT, Delft, The Netherlands

45. Guo J., Meng L., Kecman P., Corman F. (2015) Modeling delay relations based on historical train monitoring data: a Chinese high-speed railway case. Proceedings of the 6th ISROR – RailTokyo Tokyo, Japan

44. Kecman P., Corman F., Meng L. (2015) Train delay evolution as a stochastic process. Proceedings of the 6th ISROR – RailTokyo Tokyo, Japan

43. Luan X., Corman F., Meng L. (2015) Train Dispatching Models with Consideration of Train Equity: A Chinese High-speed Railway Case. Proceedings of the 6th ISROR – RailTokyo Tokyo, Japan

42. Samà M., Meloni C., D'Ariano A., Corman F. (2015) A multi-criteria practical decision support tool for real-time train rescheduling Proceedings of the 6th ISROR – RailTokyo Tokyo, Japan

41. Schroer H., Corman F., Duinkerken M.B., Negenborn R.R., Lodewijks G. (2014) Evaluation of Interterminal Transport Configurations at Rotterdam Maasvlakte using discrete event simulation Proceedings of WSC14 - Winter Simulation Conference 2014, Savannah, USA.

40. Viti F., Corman F. (2014): A joint day-to-day mode and within day day departure time choice model for the analysis of dynamic ridesharing. Proceedings of the 5th International Symposium on Dynamic Traffic Assignment, Salerno, Italy

39. Nieuwkoop F., Corman F., Negenborn R.R., Duinkerken M.B., van Schuylenburg M., Lodewijks G. (2014) Decision support for Configuration Determination in Inter Terminal Transport System Design. Proceedings of the 11th IEEE ICNSC conference, Miami, USA

38. Goverde R.M.P, Corman F., D'Ariano A., (2014) Investigation on the capacity consumption at Dutch railways for various signalling systems and traffic conditions, Proceedings of the 93rd Transportation Research Board (TRB), Washington DC, US.

37. Corman F., Meng L. (2014) A review of online dynamic models and algorithms for railway traffic rescheduling. Proceedings of the 93rd Transportation Research Board (TRB), Washington DC, US.

36. Corman F., Quaglietta E. (2014) Closing the loop in railway traffic management. Proceedings of the 93rd Transportation Research Board (TRB), Washington DC, US.

35. Quaglietta E., Corman F., Goverde R.M.P. (2013) Stability and quality evaluation of optimal railway dispatching plans under perturbed conditions. Proceedings of the 3rd Conference MT ITS, Dresden, Germany.

34. Corman F., Sabene F., Pacciarelli D., Samà M., D'Ariano A. (2013) Railway Traffic Control with minimization of passengers' discomfort. Proceedings of the 3rd Conference MT ITS, Dresden, Germany.

33. Quaglietta E., Corman F., Goverde R.M.P. (2013) Impact of a stochastic and dynamic setting on the stability of railway dispatching solutions. Proceedings of the 16th International IEEE ITSC Conference, The Hague, The Netherlands.

32. Viti F., Corman F. (2013) Equilibrium and sensitivity analysis of dynamic ridesharing. Proceedings of the 16th International IEEE ITSC Conference, The Hague, the Netherlands.

31. Viti F., Rinaldi M., Corman F. (2013) Quantifying partial observability in network sensor location problems, proceedings of hEART - 2nd Symposium of the European Association for Research in Transportation, Stockholm, Sweden.

30. Meng L., Corman F. (2013) A review of online dynamic models and algorithms for railway traffic control. Proceedings of the First IEEE International Conference on Intelligent Rail Transportation - IEEE-ICIRT, Beijing, China.

29. Quaglietta E., Corman F., Goverde, R.M.P. (2013) Stability analysis of railway dispatching solutions under a stochastic and dynamic environment, Proceedings of the 5th international Seminar on Railway Operation Modelling and Analysis, Copenhagen Denmark.

28. Goverde R.M.P., Corman F., D'Ariano A., (2013) Railway line capacity consumption of different railway signalling systems under scheduled and disturbed conditions, Proceedings of the 5th int Seminar on Railway Operation Modelling and Analysis, Copenhagen Denmark.

27. Rinaldi M., Corman F., Viti F. (2013) A Null-Space Metric For The Analysis Of Partial Network Observability In Sensor Location Problems, Proceedings of the 92nd annual meeting of the Transportation Research Board (TRB), Washington DC, US.

26. Viti F., Corman F., Tampère C. (2012) Ridesharing: equilibrium model and case studies, Proceedings of the 17th International HKSTS Conference, Hong Kong.

25. Corman F., Viti F., Tampère C., Cattrysse D. (2012) Reliable routing in stochastic networks, Proceedings of the 5th INSTR conference, Hong Kong.

24. Viti F., Corman F. (2012) An approach to the sensor location problem for measuring network variability. Proceedings of the 5th INSTR conference, Hong Kong.

23 Kecman P., Corman F., D'Ariano A., Goverde R.M.P. (2012) Rescheduling models for network-wide railway traffic management. Proceedings of the 12th conference on Advanced systems for Public Transport (CASPT 12), Santiago, Chile.

22. Larsen R. Pranzo M., Corman F., D'Ariano A., Pacciarelli D. (2012) Robustness of Optimal Train Schedules to Stochastic Disturbances of Process Times. Proceedings of the Int. Conf. on Applied Mathematical Optimization and Modelling-APMOD Paderborn, Germany.

21. Corman F., D'Ariano A., Dollevoet T., Huisman D. (2012) A bi-level optimization framework for delay management and train scheduling. Proceedings of the Int. Conference on Applied Mathematical Optimization and Modelling- APMOD Paderborn, Germany

20. Corman F., D'Ariano A., (2012) Assessment of advanced dispatching measures for recovering disrupted railway situations, Proceedings of the 91st annual meeting of the transportation research board (TRB), Washington DC, US.

19. Corman F., D'Ariano A., Pacciarelli D., Pranzo M. (2011) A bilevel rescheduling framework for optimal inter-area train coordination, Proceedings of the 11th Workshop on Algorithmic Approaches for Transportation Modelling, Optimization, and Systems, ATMOS Saarbrücken, Germany.

18. Corman F., D'Ariano A., Pacciarelli D., Pranzo M. (2011) Optimal inter-area coordination of train rescheduling decisions. 19th International Symposium of Transportation and Traffic Theory, Berkeley, US.

17. Corman F. D'Ariano A., Hansen I.A. (2011) Evaluating disturbance robustness of dispatching measures, Proceedings of the 2nd International Conference on Modeling and Technology for ITS, Leuven, Belgium.

16. Corman F., D'Ariano A., Hansen I.A. (2011) Intelligent Network Traffic Management in Emergency Situations, Proceedings of the 9th World Congress on Railway Research, Lille, France.

15. Corman F., D'Ariano A., Hansen I.A., Pacciarelli D., Pranzo M. (2011) Dispatching trains during seriously disrupted traffic situations, proceedings of the 8th IEEE International Conference on Network, Sensors and Control, Delft, The Netherlands.

14. Corman F., D'Ariano A., Hansen I.A., Pacciarelli D. (2011) Optimal multi-class rescheduling of railway traffic, In proceedings of the 4th international Seminar on Railway Operation Modelling and Analysis, Roma, Italy.

13. Corman F., D'Ariano A., Pacciarelli D., Pranzo M. (2010) Bi-objective conflict detection and resolution: Minimizing train delays and maximizing passenger connections, Proceedings of the 11th TRAIL Congress, Rotterdam, The Netherlands.

12. Corman F., D'Ariano A., Hansen I.A. (2010) Disruption handling in large railway networks, Proceedings of the 12th International Conference on Computer System Design and Operation in the Railway and other Transit Systems, Comprail XII, Beijing, China.

11. Corman F., D'Ariano A., Pacciarelli D., Pranzo M. (2010) Bi-objective conflict detection and resolution in railway traffic management, Proceedings of the 7th Triennial Symposium on Transportation Analysis, TRISTAN VII, Tromsø, Norway.

10. Corman F., D'Ariano A., Longo G., Medeossi G. (2010) Robustness and delay reduction of advanced train dispatching solutions under disturbances, Proceedings of the 12th World Conference on Transport Research, Lisbon, Portugal.

9. Corman F., D'Ariano A., Pacciarelli D., Pranzo M. (2009) Centralized versus distributed railway traffic control. Proceedings of the 11th international Conference on Advanced Systems for Public Transport (CASPT09): Hong Kong, China.

8. Corman F., D'Ariano A., Pacciarelli D., Pranzo M. (2009) Optimization and coordination in real-time railway traffic management. Proceedings of the First International Conference on Models and Technologies for Intelligent Transportation Systems: Rome, Italy.

7. Corman F., D'Ariano A., Pranzo M., Hansen I.A. (2009) Effectiveness of dynamic reordering and rerouting of trains in a complicated and densely occupied station area. Proceedings of the 3rd International Seminar on Railway Operation Modelling and Analysis: Zurich, Switzerland.

6. D'Ariano A., Corman F., Hansen I.A. (2008) Evaluating the performance of an advanced train dispatching system. Proceedings of the International Conference on Infrastructure Systems: Rotterdam, The Netherlands.

5. Wegele S., Corman F., D'Ariano A. (2008) Comparing the effectiveness of two real-time train rescheduling systems in case of perturbed traffic conditions. Proceedings of the 11th International Conference on Computer System Design and Operation in the Railway and Other Transit Systems, Comprail XI, Toledo, Spain

4. Corman F., D'Ariano A. (2008) Existing and future approaches on railway traffic control from an agent-based perspective. Conference proceedings 10th TRAIL congress: Delft, TRAIL Research School.

3. Corman F., D'Ariano A., Pacciarelli D., Pranzo M. (2008) Evaluation of green wave policy in real-time railway traffic management. Proceedings of the 10th International Conference on Applications of Advanced Technologies in Transportation: Athens, Greece.

2. D'Ariano A., Corman F., Hansen I.A. (2008) Railway traffic optimization by advanced scheduling and rerouting algorithms. Proceedings of 8th World Congress of Railway Research: Seoul, Korea.

1. D'Ariano A., Corman F., Pacciarelli D., Pranzo M. (2006) Real-time train conflict detection and resolution: Global sequencing and local rerouting. Conference proceedings 9th TRAIL congress, Delft

KEYNOTE LECTURES, SEMINARS

43. Corman F (2023) Power Peaks in Railway Networks: Analytics, Modelling and Optimization'. TUDelft

42. Corman F. (2023) Sometimes wrong, but useful: integrating information in public transport. : Hot Topic Workshop: Integrated Planning in Public Transport, Münchweiler, Germany, RPTU Technical University of Kaiserslautern.

41. Corman F. (2022) Railway traffic control room, and room for control. How to get the best out of your transport network? University of Gent, VAIA, onTrack Lab

40. Corman F. (2022) Passenger-oriented railway traffic planning and management. Informs Railway Applications Section Webinar.

39. Nold M., Corman F. (2022) ÖV der Zukunft Überall, jederzeit, nahtlos und komfortabel. Ringvorlesung Mobilität https://www.research-collection.ethz.ch/handle/20.500.11850/531133

38. Corman F., Leng N. (2020) Communicating railway delays and adjusted timetables: the role of incomplete information to passengers in railway operations 7th Int. Symposium on Railway Operations Research -Beijing Jiaotong Nov.2020

37. Corman F. (2020) Disruption in public transport networks: University of Montréal

36. Corman F. (2019) Post finance Kader Anlass: digitalization in mobility

35. Corman F. (2019) A digital railway system – and what it means for operators and users. ETH Risk Seminar

34. Corman F. (2019) NUS university Singapore

33. Corman F. (2019) HK City university

32. Corman F. (2019) IBM Research Singapore.

31. Corman F. (2019) ETH Mobility week: critical thinking night

30. ATO Tag 2019, SBB Zürich 2019

29. DACH transport conference, Dornbirn (prof.Gronalt) 2019

28. Passenger oriented railway traffic management, TRANS-FORM final workshop, EPFL Lausanne 2019

27. Disruptions in public transport and railway networks, NYU, 2019

26. Disruptions management in railway networks, State University of New York at Buffalo, 2019

25. Railway traffic management in the era of data driven approaches, University of Waterloo, 2019

24. Modelling transport disruptions, UCL London, 2019

23. Modelling transport disruptions, University of Leeds, 2019

22. Routing and scheduling trains, Newcastle University, 2019

21. Strategic interactions in disruptions in public transport systems, Uslar Seminar on integrated optimization 2018.

20. Integrated operations and maintenance scheduling, Smart Maintenance Days 2018

19. Strategic interactions in public transport networks, UNSW Sydney 2018.

18. Energy efficient train operations, University of South Australia, 2018.

17. Routing vehicles and passengers in public transport networks. Swiss OR Days 2018.

16. Routing & scheduling in transit networks. Transport summit, DTU Copenhagen 2018.

15. Strategic interactions in public transport networks, DTU ManCopenhagen 2018.

14. Control in public transport networks. UNI Luxembourg February 2018

13. Routing in transit networks. MIT Transit lab January 2018.

12. Strategic Interactions in Microscopic Delay Management - 4th International Symposium on railway research, Beijing Jiaotong October 2017

11. Using Wheel impact Load Detectors for condition-based maintenance of railway wheels, 4th Int. Symposium on Railway Research -Beijing Jiaotong Oct 2017

10. Optimizing trains or passengers? Dagstuhl seminar Algorithmic Methods for Optimization in Public Transport, April 2016

9. Railway traffic models, Dr. Xin, Zhengzhou University, March 2016

8. Railway traffic models, Prof Meng Beijing Jiaotong University, March 2016

7. Railway traffic models, Prof Anderson, Linkoping University, February 2016

6. Logistics control, Prof Gronalt, BOKU Universität, Vienna, 2015

5. Railway traffic control, Prof Tomii, RTRI Japan, Aug 2015

4. Passenger assignment in railway networks; COST, Paris May 2015

3. Distributed control strategies for transport networks, iCore, Paris. May 2015

2. Control in multi-stakeholders problems, rear-admiral Visser, Rotterdam 2014

1. Equity in railway traffic control, Prof Vansteenwegen, KU Leuven Dec 2014

SELECTED CONFERENCE PRESENTATIONS	28. Corman F., Luan X., De Martinis V. (2018) Model-based and data-driven approaches for railway traffic management and energy efficient operations. AIRO Optimization and Decision Sciences Conference Taormina, Italy

27. Zimmermann M., Dertimanis V., Chatzi E., Corman F. (2018) Estimation track condition based on axle box accelerations of revenue trains. 4th International Conference on Railway Technology: Research, Development and Maintenance

26. Van Thielen S., Corman F., Vansteenwegen P. (2018) Effects of introducing a control delay in real-time railway traffic management EURO 2018 Valencia.

25. Van Thielen S., Corman F., Vansteenwegen P. (2017) Benefits of a dynamic impact zone when dealing with train conflict, INFORMS Annual Meeting
second place winner at RAS student paper competition 2017, Houston, USA

24. Toletti A., De Martinis V., Corman F., Weidmann U.A. (2017) Boosting the Resource Conflict Graph approach to train rescheduling with column-and-row generation, AIRO / Optimization and Decision Sciences Conference, Sorrento, Italy.

23. Corman F. (2016) Optimizing trains or passengers? Dagstuhl seminar Algorithmic Methods for Optimization in Public Transport, Dagstuhl, Germany

22. Van Thielen S., Corman F., Vansteenwegen P. (2016) A new heuristic for real-time train rescheduling and local rerouting. EURO 2016 Poznan.

21. Samà M., D'Ariano A., Pacciarelli D., Corman F. (2015) Real-time near-optimal train scheduling and routing in complex railway networks, AIRO 2015. Pisa

20. Corman F., Viti F., Negenborn R.R. (2014) Equilibrium models in multi-modal container transport systems. LOGMS conference, Rotterdam the Netherlands

19. Luan X., supervised by Corman F., Meng L. (2014) A balanced train dispatching model toward reducing train delays and inequity of competitors. INFORMS Annual Meeting
Second Prize Winner at RAS Student Paper Competition 2014: San Francisco, USA

18. Samà M., Zaninotto G., D'Ariano A., Pacciarelli D., Corman F. (2014) A hybrid metaheuristic for re-scheduling and re-routing in public transport AIRO 2014. Como

17. D'Ariano A., Corman F., Pacciarelli D., Sabene F., Samà M. (2014) Minimization of passengers' travel time in railway traffic control. AIRO 2014 Como.

16. Pacciarelli D., Corman F., Sabene F., D'Ariano A., Samà M. (2014) Minimization of passengers' travel time in railway traffic control. IFORS 2014 Barcelona

15. Nieuwkoop F., Corman F., Negenborn R.R., Lodewijks G. (2013) Determining Inter Terminal Transport Configurations at Maasvlakte 1 and 2 by Integer Programming. Proceedings of the 20th Vervoerlogistieke Wekdagen (VLW), Venlo, the Netherlands.

14. Corman F., Dollevoet T.A.B., D'Ariano A., Huisman D. (2013) An iterative optimization framework for delay management and train scheduling. 26th European Conference on Operational Research – XXVI EURO INFORMS, Rome, Italy.

13. Rinaldi M., Corman F., Viti F. (2013) A new metric for partial observability solutions to sensor location problems. 26th European Conference on Operational Research – XXVI EURO INFORMS, Rome, Italy.

12. Corman F., Viti F., Tampère C., Cattrysse D. (2012) Stochastic Shortest Paths with correlation effects, 19th Vervoerlogistieke Werkdagen (VLW), Venlo, The Netherlands.

11. D'Ariano A., Corman F., Pacciarelli D., Pranzo M. (2011) A bilevel rescheduling framework for optimal inter-area train coordination, AIRO 2011, Brescia, Italy.

10. Pacciarelli D., Corman F., D'Ariano A., Pranzo M. (2011) Minimization of delay propagation in multi-area railway traffic control, Melbourne, Australia

9. Corman F., D'Ariano A., Pacciarelli D., Pranzo M. (2010) Dispatching and coordination in real-time railway traffic management, presented at the XXIV European Conference on Operational Research, EURO XXIV, Lisbon, Portugal.

8. D'Ariano A., Corman F., Pacciarelli D., Pranzo M. (2009) Impact of rescheduling trains with transfer connections in disturbed traffic conditions, AIRO 2009 Siena, Italy.

7. Pranzo M., Corman F., D'Ariano A., Pacciarelli D. (2009) Impact of rescheduling trains with transfer connections in disturbed traffic conditions. EURO 2009. Bonn, Germany.

6. D'Ariano A., Corman F., Pacciarelli D., Pranzo M. (2008) Evaluation of green-wave policy in real-time railway traffic management. INFORMS Annual Meeting: Washington, USA.

5. Pacciarelli D., Corman F., D'Ariano A., Pranzo M. (2008) Evaluation of green-wave policy in real time railway traffic management. IFORS: Sandton, South Africa.

4. Pacciarelli D., Corman F., D'Ariano A., Pranzo M. (2008) A tabu search algorithm for Real-time railway traffic optimization. 12th EWGT: Ischia, Italy.

3. D'Ariano A., Corman F., Pacciarelli D., Pranzo M. (2007) A tabu search algorithm for a short-term train rerouting problem. 1st Annual ARRIVAL workshop: Utrecht.

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Project evaluator METRANS transportation Center University Southern California, Swiss National Science Foundation – SNSF, COST proposal evaluator EU-H2020, Czech Science Foundation, DFG German science foundation; ANR-Agence nationale de la récherche; NWO Dutch Science Foundation, FWO Flemish research foundation; UniMoRe project proposal; ESF Republic of Serbia.
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