Courses

	Tuesday, April 4th, 2017
09:00 - 09:45	Registration
09:45 - 10:00	**Opening**
10:00 - 10:45	**Railway infrastructure capacity evaluation - Stefano Ricci, University of Rome "La Sapienza"**
10:45 - 10:55	*Break*
10:55 - 11:40	**Railway line planning - Jonas Harbering, Georg-August Universität Göttingen**
11:40 - 11:50	*Break*
11:50 - 12:35	**Timetable design - Steven Harrod, Technical University of Denmark**
12:35 - 13:35	*Lunch*
13:35 - 14:20	**Robustness and allowances in timetabling - Rob M.P. Goverde, Delft University of Technology**
14:20 - 14:30	*Break*
14:30 - 15:15	**Rolling stock rotation planning - Thomas Schlechte, LBW GbR, Modal, Zuse Institute Berlin**
15:15 - 15:45	*Coffee break*
15:45 - 16:30	**Re-scheduling of railway traffic - Johanna Tornquist Krasemann, BTH Blekinge Institute of Technology**
16:30 - 16:40	*Break*
16:40 - 17:25	**Integration of passenger criteria in railway services design and operation - Norio Tomii, Chiba Institute of Technology**

Conference

Wednesday, April 5th, 2017

8:00 - 9:30	Registration		
9:30 - 10:00	**Opening (Eurotop)**		
10:10 - 10:40	**Keynote - "Opening of South Europe Atlantic and Brittany Loire high-speed lines: opportunities for modeling and optimization" by Pierre Sablier, Exploitation Manager of Atlantic 2017 (Eurotop)**		
10:40 - 11:10	Coffee break		
11:10 - 12:30	**TT-1 Timetabling (Eurotop) - Paola Pellegrini**	**TM-1 Traffic Management (Artois 1) - David De Almeida**	**RS-1 Rolling Stock Scheduling & Maintenance (Artois 2) - Twan Dollevoet**
11:10 - 11:30	Markov Chain Model for Delay Distribution in Train Schedules - *Ismail Sahin, Yildiz Technical University*	Microscopic algorithm for optimally short-turning trains in case of complete blockage - *Nadjla Ghaemi, Delft University of Technology*	Pattern Detection For Large-Scale Railway Timetables - *Stanley Schade, ZIB Zuse Institute Berlin*
11:30 - 11:50	Resolving instability in railway timetabling problems - *Nikola Besinovic, Delft University of Technology*	An exploratory study on railway disruption management using switching max-plus linear models - *Ton van den Boom, Delft University of Technology*	An Integrated Approach for Passenger Railway Timetable and Rolling Stock Rotations Planning - *Mohamed Benkirane, SNCF Mobility*
11:50 - 12:10	An algorithm to make a resilient timetable - *Keisuke Imada, Chiba Institute of Technology*	Train timetable rescheduling on single-track lines under adverse weather conditions - *Wang Ying, University of Leeds*	Integrated Optimization of Train and Rolling Stock Rescheduling: an Approach based on Vehicle Routing Problems - *Lingyun Meng, Beijing Jiaotong University*
12:10 - 12:30	A synchronous heuristic approach for the construction of train paths and assignment of trains for the timetabling of freight trains - *Andreas Oetting, Technische Universität Darmstadt*	Simulation-based train rescheduling algorithm for supporting decision-making in temporal speed restricted situations - *Satoshi Kato, RTRI Railway Technical Research Institute*	Automatic train rescheduling in case of disruptions - *Teruomi Katori, Nihon University*
12:30 - 13:30	Lunch		
13:30 - 14:30	**TM-2 Traffic Management (Eurotop) - Carlo Mannino**	**NL-1 Network & Line Planning (Artois 1) - Steven Harrod**	**PF-1 Passenger Flow Analyses (Artois 2) - Angel Marín**
13:30 - 13:50	Trains assignment to station routes on disrupted operation: a methodological approach - *Stefano Ricci, Sapienza Università di Roma*	Enabling Resilient Railway Operations in the Context of Climate Change - *Alejandro Ortega Hortelano, University of Southampton*	Q-Learning Approach for Coordinated Optimization of Passenger Inflow Control with Train Skip-stopping in Urban Rail Transit Line - *Zhibin Jiang, Tongji University*
13:50 - 14:10	Passenger-oriented Railway Traffic Re-scheduling: A Review of Alternative Strategies utilizing Passenger Flow Data - *Sai Prashanth Josyula, Blekinge Institute of Technology*	System-based Vulnerability Measures for Railway Systems - *Yongqiu Zhu, Delft University of Technology*	Estimation of passengers' train paths under timetable which reflects passengers' preference and train capacity - *Taketoshi Kunimatsu, Railway Technical Research Institute*
14:10 - 14:30	The use of full-fidelity simulators for the quantification of signaller's demand - *David Golightly, University of Nottingham*	Delay Performance of Different Train Types Under Combinations of Structured and Flexible Operations on Single-Track Railway Lines in North erica - *Darkhan Mussanov, University of Illinois at Urbana-Champaign*	Study to Quantitatively Evaluate Effectiveness of Timetable Revision using SCORE Methodology - *Hiroshi Takayasu, East Japan Railway Company*
14:30 - 14:40	Break		
14:40 - 15:40	**TT-2 Timetabling (Eurotop) - Joaquín Rodriguez**	**IY-1 Infrastructure Maintenance & Yard Management (Artois 1) - Thomas Schlechte**	**SD-1 System design, validation and evaluation (Artois 2) - Ingo A. Hansen**
14:40 - 15:00	A Microscopic Evaluation of Robustness in Critical Points - *Emma Solinen, Trafikverket*	Considering disruptions and recovery in rail rapid transit network design - *Ángel Marín, UPM Technical University of Madrid*	Development of Very High Frequency Train Operation Techniques for the Realisation of Ultra-Convenient Rail Transport (UCRT) - *Ryo Takagi, Kogakuin University*
15:00 - 15:20	Combining optimization and simulation to improve railway timetable robustness - *Johan Högdahl, KTH Royal Institute of Technology*	Incremental Capacity in Transitioning from Double to Triple Track on Shared Freight and Commuter Rail Corridors in North erica - *C. Tyler Dick, University of Illinois at Urbana-Champaign*	Fully automatic railway operation: technical, operational and legal requirements - *Michael Meyer zu Hörste, DLR German Aerospace Centre*
15:20 - 15:40	Robust Periodic Timetabling - *Gert-Jaap Polinder, Erasmus University*	TreMOla - Optimal timetables for maintenance of the Gotthard Base Tunnel - *Dan Burkolter, trafIT solutions GmbH*	Automated Semantic Validation of Railway Data Using the Example of Signalling Systems - *Martin Lehnert, Technische Universität Dresden*
15:40 - 16:00	Coffee break		
16:00 - 17:00	**TT-3 Timetabling (Eurotop) - Pieter Vansteenwegen**	**TM-3 Traffic Management (Artois 1) - Stefano Ricci**	**PF-2 Passenger Flow Analyses (Artois 2) - Norio Tomii**
16:00 - 16:20	On-Demand Timetabling in Dense Railway Networks: Methods and Challenges - *Fahimeh Khoshniyat, Linköping University*	Multi-objectives of the passenger oriented disruption management problem - *Nuannuan Leng, ETH Zurich*	Designing the future commuter traffic through central Stockholm area - *Olov Lindfeldt, MTR Pendeltagen*
16:20 - 16:40	Scheduling additional trains on a high-speed rail corridor - *Yuan Gao, Beijing Jiaotong University*	Traffic Control Strategy for JR East Shinkansen under Service Interruption - *Yusuke Saito, East Japan Railway Company*	Age-Friendly Rail Station Simulation: Software package application for designing and performance evaluating of railway stations - *Marin Marinov, University of Newcastle upon Tyne*
16:40 - 17:00	Disaggregation in Bundle Methods: Application to Train Timetabling Problem - *Abderrahman Ait Ali, KTH Royal Institute of Technology*		New Transport Arrangements using ICT - *Sei Sakairi, East Japan Railway Company*
17:00 - 17:10	Break		
17:10 - 17:40	**Keynote - "A new IM: challenges and research opportunities" by Jean-Claude Larrieu, Deputy General Manager - SNCF Réseau (Eurotop)**		

Thursday, April 6th, 2017

09:20 - 10:40	**EC-1 Energy Consumption (Eurotop) - Rémy Chevrier**	**DP-1 Delay Analysis & Prediction (Artois 1) - Dick C. Tyler**	**IY-2 Infrastructure Maintenance & Yard Management (Artois 2) - Paola Pellegrini**
09:20 - 09:40	Analysis of Driving Behaviour of IR Train Drivers Influencing Diesel Traction Energy Consumption - *Abhyuday, Indian Railways Institute of Mechanical & Electrical Engineering*	A big data analysis method for evaluating train delay effects in Urban Rail Transit - *Fengbo Liu, Tongji University*	Resource considerations for integrated planning of railway traffic and network maintenance - *Tomas Lidén, Linköping University*
09:40 - 10:00	Development of a Train Operation Power Simulator with a Speed Profile Generator for an Energy Estimation - *Tomoyuki Ogawa, RTRI Railway Technical Research Institute*	Statistics of HSR Primary Delay based on Real-world Records: Case of Wuhan-Guangzhou - *Chao Wen, Southwest Jiaotong University*	Timetable Optimization during Railway Infrastructure Maintenance - *Diego Arenas, IFSTTAR & Railenium*
10:00 - 10:20	Multicriteria train rescheduling by means of an efficient adaptive epsilon-constraint method - *Ambra Toletti, ETH Zurich*	Multiple-Linear Regression Model of Primary Delay Recovery Based on Records of Wuhan-Guangzhou HSR - *Chao Wen, Southwest Jiaotong University*	Solving Large-Scale Train Timetable Adjustment Problems under Infrastructure Maintenance Possessions - *Sander Van Aken, KU Leuven*
10:20 - 10:40	Nonlinear Programming Methods Based on Closed-Form Expressions for Optimal Train Control - *Hongbo Ye, University of Leeds*	Improvement of timetable robustness by analysis of drivers' operation based on data mining technique - *Yasufumi Ochiai, Odakyu Electric Railway Co., Ltd.*	
10:40 - 11:10	Coffee break		
11:10 - 12:30	**TT-4 Timetabling (Eurotop) - Meena Dasigi**	**SD-2 System design, validation and evaluation (Artois 1) - John Preston**	**IY-3 Infrastructure Maintenance & Yard Management (Artois 2) - Rob M.P. Goverde**
11:10 - 11:30	Optimization of supplements and buffer times in passenger robust microscopic timetabling - *Sofie Burggraeve, KU Leuven*	Market dynamics in on-rail competition - *Emanuel Broman, KTH Royal Institute of Technology*	Queuing-theory based capacity assessment for industrial site infrastructures - *Thorsten Büker, VIA Consulting & Development GmbH*
11:30 - 11:50	Increasing robustness of timetables by deliberate operation of trains - *Akiyoshi Yamamura, Tokyo Metro Subway Co., Ltd.*	Evaluating Existence Value of the Luxury Excursion Train by Contingent Valuable Method - *Manabu Sugasawa, East Japan Railway Company*	Towards a comprehensive model for track allocation and roll-time scheduling at marshalling yards - *Sara Gestrelius, SICS Swedish ICT*
11:50 - 12:10	An empirical study of timetable strategies and their effects on punctuality - *Carl-William Palmqvist, Lund University*	Optimization of Passenger Railway System Design - *Yungcheng Lai, National Taiwan University*	Conflict-Free Railway Track Assignment at Depots - *Joseph Paat, JHU Johns Hopkins University*
12:10 - 12:30	Stability of saturated timetables: the influence of buffer times - *Nicola Coviello, Politecnico di Torino*	Predicting the Cost and Operational Impacts of Slow Orders on Rail Lines in North America - *Alexander Lovett, University of Illinois at Urbana-Champaign*	Time-oriented Rail Freight Transport Process Controlling with Dynamic PERT Network - *Yanan Li, Tongji University*
12:30 - 13:30	Lunch		
13:30 - 14:00	**Keynote - "Delivering the railway for next generations: a way forward" by Alain-Henri Bertrand, President of the Scientific and Strategic Orientation Council of Railenium (Eurotop)**		
14:10 - 15:10	**EC-2 Energy Consumption (Eurotop) - Joaquín Rodriguez**	**CA-1 Capacity Analysis (Artois 1) - John Armstrong**	**PF-3 Passenger Flow Analyses (Artois 2) - Norio Tomii**
14:10 - 14:30	Multi-Train Trajectory Optimization Method for Energy-Efficient Timetable Adjustment - *Pengling Wang, Delft University of Technology*	Markov Models for the Performance Analysis of Railway Networks - *Stephan Zieger, RWTH Aachen University*	A simulation model of local public transport access at a railway station - *Therese Lindberg, VTI & Linköping university*
14:30 - 14:50	A Real-Time Energy Consumption Minimization Problem in Railway Networks - *Teresa Montrone, ESTECO S.p.A*	A quasi-birth-and-death process approach for integrated capacity and reliability modeling of railway systems with fallible infrastructure components - *Norman Weik, RWTH Aachen University*	A Customer-oriented Rescheduling Simulator for Large-scale Train-service Disruptions - *Masao Yamashiro, Hitachi Ltd.*
14:50 - 15:10	Integrated Optimization of Traffic Management and Train Control for Rail Networks - *Xiaojie Luan, Delft University of Technology*	Railway capacity analysis based on train time window by utilizing macroscopic cyclic timetabling model - *Xin Zhang, Beijing Jiaotong University*	Analysis of passenger flow of Wuhan-Guangzhou HSR - *Yuxiang Yang, Southwest Jiaotong University*
15:10 - 15:40	Coffee break		
15:40 - 16:40	**TM-4 Traffic Management (Eurotop) - Johanna Törnquist Krasemann**	**RS-2 Rolling Stock Scheduling & Maintenance (Artois 1) - Dario Pacciarelli**	**PF-4 Passenger Flow Analyses (Artois 2) - Giorgio Medeossi**
15:40 - 16:00	The Real Time Traffic Control with Mixed Passenger and Freight Trains - *Wenhua Qu, Delft University of Technology*	A Propagation Approach to Acyclic Rolling Stock Rotation Optimization - *Boris Grimm, ZIB Zuse Institute Berlin*	Simulation-based timetable evaluation with focus on passengers - *Jennifer Warg, KTH Royal Institute of Technology*
16:00 - 16:20	Traffic Operation Real-time Assistance System - *Hajime Ochiai, West Japan Railway Company*	Joint optimization of train assignment and predictive maintenance scheduling - *Nathalie Herr, Université Technologique Belfort-Montbéliard*	Impact of High Speed Train Seat Management Patterns on Passenger Travel Efficiency under Train Delay Circumstance - *Huiling Fu, Beijing Jiaotong University*
16:20 - 16:40	A Benders' algorithm for the real-time Railway Traffic Management Problem – *Kaba Keita, IFSTTAR*	Rolling Stock Rostering Optimization Based on the Model of Giacco et al.: Computational Evaluation and Model Extensions - *Susumu Morito, Waseda University*	Development of estimation system for number of passengers on Shinkansen trains - *Ito Kazutaka, East Japan Railway Company*
16:40 - 18:00	**IAROR business meeting**		

19:30 - 22:30	**Dinner**

Friday April 7th, 2017

09:00 - 10:20	**TM-5 Traffic Management (Eurotop) - Stéphane Dauzère-Pérès**	**DP-2 Delay Analysis & Prediction (Artois 1) - Ingo A. Hansen**	**NL-2 Network & Line Planning (Artois 2) - Luis Cadarso**
09:00 - 09:20	Boosting the performance of railway traffic management through the reformulation of RECIFE-MILP - *Paola Pellegrini, IFSTTAR*	Arrival Time Prediction Using Neural Networks - *Xavier Chapuis, SNCF Innovation Recherche*	Optimal design of the regional railway service in Italy - *Carlo Mannino, SINTEF The Foundation for Scientific and Industrial Research*
09:20 - 09:40	Decentralized, Autonomous Train Dispatching using Swarm Intelligence in Railway Operations and Control - *Yong Cui, IEV Institut für Eisenbahn- und Verkehrswesen*	Statistical Distribution Analysis of High-Speed Railway Delay Causes: Evidence from Guangzhou Railway Corporation in China - *Yuxiang Yang, RWTH Aachen University*	Construction of periodic timetables on a suburban rail network - case study from Mumbai - *Soumya Dutta, Indian Institute of Technology*
09:40 - 10:00	Analysis and planning of train movements at a railway junction - *Shripad Salsingikar, Indian Institute of Technology*	Adaptive Stochastic Model for the Train Rescheduling - *Boris Davydov, Far Eastern State Transport University*	Developing Integrated Tools to Optimise Railway Systems: An Overview - *John Preston, University of Southampton*
10:00 - 10:20	Optimized real-time train order at junctions - *François Ramond, SNCF Innovation Recherche*	A Parametric Model of the Train Delay Distribution Based On Traffic Conflicts - *Mei-Cheng Shih, University of Illinois at Urbana-Champaign*	Optimization of a passenger railway transportation plan considering mobility flows and service quality - *Lucile Brethomé, SNCF Innovation Recherche & IFSTTAR*
10:20 - 10:50	Coffee break		
10:50 - 12:10	**TT-5 Timetabling (Eurotop) - Andreas Oetting**	**TM-6 Traffic Management (Artois 1) - Egidio Quaglietta**	**CA-2 Capacity Analysis (Artois 2) - Alex Wardrop**
10:50 - 11:10	Solving the Train Timetabling Problem in A Practical Railway Network Based on Lagrangian Relaxation - *Zhengwen Liao, Beijing Jiaotong University*	The potential of the routing selection problem in real-time railway traffic management - *Marcella Samà, Roma Tre University*	A Decision Support Screening Tool for Infrastructure Capacity Planning on Single-track Lines - *Mei-Cheng Shih, University of Illinois at Urbana-Champaign*
11:10 - 11:30	On the Specific Application Fields of Various Models for Railway Timetable Optimization - *Christian Liebchen, Technische Hochschule Wildau*	An efficient heuristic for real-time train rescheduling and local rerouting - *Pieter Vansteenwegen, KU Leuven*	Direct train routing to minimize running distance and assess rail network capacity demand - *Hans Boysen, KTH Royal Institute of Technology*
11:30 - 11:50	A Machine Learning Approach for Scheduling Railway Networks - *Harshad Khadilkar, TATA Consultancy Services Ltd*	An iterative approach for real-time rescheduling in a railway rapid transit system - *Estelle Altazin, EMSE & SNCF Innovation et Recherche*	Increasing Performance of Railway Systems by Exploitation of the Relationship between Capacity and Operation Quality - *Jiajian Liang, IEV Institut für Eisenbahn- und Verkehrswesen der Universität Stuttgart*
11:50 - 12:10	Techniques for Inserting Extra Train Paths into Existing Cyclic Timetables - *Yuyan Tan, Beijing Jiaotong University*	Rail Disruption Management: Considering Energy Consumption and Passenger Compensation - *Luis Cadarso, Universidad Rey Juan Carlos*	Capacity Utilisation and Performance at Railway Stations - John Armstrong, *University of Southampton*
12:10 - 12:30	**Closing ceremony**		
12:30 - 13:30	Lunch		
13:30 - 18:00	**Technical visits**		