

6th Workshop on Algorithmic Methods and Models for Optimization of Railways

ATMOS 2006, September 14, 2006, Zuerich, Switzerland

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ATMOS 2006 Preface: Algorithmic Methods and Models for Optimization of Railways

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The 6th Workshop on Algorithmic Methods and Models for Optimization of Railways (ATMOS 06) is held on September 14, 2006 in Zürich, Switzerland (<http://algo06.inf.ethz.ch/atmos>), as part of the ALGO meeting. Previous ATMOS workshops were held in Heraklion, Crete, Greece (2001), in Malaga, Spain (2002), in Budapest, Hungary (2003), in Bergen, Norway (2004), and in Palma de Mallorca, Spain (2005).

Solving railway optimization problems requires a coordinated interdisciplinary effort from various areas in mathematical optimization and theoretical computer science, including graph and network algorithms, theory of computation, approximation algorithms, combinatorial optimization, and algorithm engineering. The goal of the ATMOS workshop series is to provide a forum for the exchange and dissemination of new ideas, techniques, and research in the field of railway optimization. In particular, the workshop is meant to bring together researchers from the above areas interested in all aspects of algorithmic methods and models for railway optimization, including the development of algorithms, experimental studies, and useful prototype implementations.

The program committee received 14 submissions of full papers. After a peer-reviewing process 8 contributions were selected for presentation at the workshop, 7 of these papers are collected in this issue, the contribution of Dennis Huisman is already accepted for publication in the European Journal of Operational Research. The contributed papers are representative for several areas of research within the scope of ATMOS: locomotive and wagon scheduling, crew scheduling, line planning, quality of service aware transportation planning, periodic timetabling, and simulation studies on robustness and recovery.

In addition, the workshop includes an invited lecture by Ralf Borndörfer (Zuse-Institute Berlin, Germany) on “Directions in Railway and Public Transport Optimization”, and an invited tutorial by Ravindra K. Ahuja (Univ. of Florida and Innovative Scheduling, Inc., USA) on “Next Generation Decision Support Systems in Railroad Scheduling”.

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We would like to take this opportunity to thank the other program committee members for their timely and professional work:

- Ravindra K. Ahuja (Univ. of Florida and Innovative Scheduling Inc., USA)
- Elias Dahlhaus (DB Systems, Frankfurt a.M., Germany)
- Camil Demetrescu (Univ. of Rome La Sapienza, Italy)
- Dick Middelkoop (ProRail, Utrecht, The Netherlands)
- Martin Skutella (Univ. Dortmund, Germany)
- Paolo Toth (Univ. Bologna, Italy)

We also thank all external referees who helped in the paper selection. Finally, we would like to thank the editors of the Dagstuhl Seminar Proceedings for the opportunity to publish these proceedings within DROPS. For the upcoming workshop we wish for many nice talks and constructive discussions.

Zürich and Darmstadt, August 2006

Riko Jacob and Matthias Müller-Hannemann
PC co-chairs of ATMOS 2006