11th Workshop on Algorithmic Approaches for Transportation Modelling, Optimization, and Systems

ATMOS'11, September 8, 2011, Saarbrücken, Germany

Edited by
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Preface

Transportation networks give rise to very complex and large-scale network optimization problems requiring innovative solution techniques and ideas from mathematical optimization, theoretical computer science, and operations research. Applicable tools and concepts include those from graph and network algorithms, combinatorial optimization, approximation and online algorithms, stochastic and robust optimization. Since 2000, the series of ATMOS workshops brings together researchers and practitioners who are interested in all aspects of algorithmic methods and models for transportation optimization and provides a forum for the exchange and dissemination of new ideas and techniques. The scope of ATMOS comprises all modes of transportation.

The 11th Workshop on Algorithmic Approaches for Transportation Modelling, Optimization, and Systems (ATMOS 2011) was held in connection with ALGO 2011, hosted by the *Max Planck Institut für Informatik*, Saarbrücken, Germany, on September 8, 2011. Topics of interest for ATMOS 2011 were all optimization problems for passenger and freight transport, including – but not limited to – Infrastructure Planning, Vehicle Scheduling, Crew and Duty Scheduling, Rostering, Routing in Road Networks, Novel Applications of Route Planning Techniques, Demand Forecasting, Design of Tariff Systems, Delay Management, Mobile Applications, Humanitarian Logistics, Simulation Tools, Line Planning, Timetable Generation, and Routing and Platform Assignment. Of particular interest were: the successful integration of several (sub)problems or planning stages, algorithms operating in an online/realtime or stochastic setting, and heuristic approaches (including approximation algorithms) for real-world instances. In response to the call for papers we received 22 submissions, all of which were reviewed by at least three referees. The submissions were judged on originality, technical quality, and relevance to the topics of the conference. Based on the reviews, the program committee selected the 12 papers which appear in this volume. Together, they quite impressively demonstrate the range of applicability of algorithmic optimization to transportation problems in a wide sense. In addition, Carlo Manino kindly agreed to complement the program with an invited talk entitled *Real-time traffic control in railway systems*. We would like to thank all the authors who submitted papers to ATMOS 2011, Carlo Manino for accepting our invitation to present an invited talk, and the local organizers for hosting the ATMOS workshop as part of ALGO 2011.

September 2011

Alberto Caprara
Spyros Kontogiannis

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