

Session Detail Information

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Cluster : Aviation Applications

Session Information : Tuesday Nov 15, 10:00 - 11:30

Title: From Ground to Air: Capacity Planning

Chair: Mark Hansen, Professor, University of California at Berkeley, 107 McLaughlin Hall, Berkeley CA 94720, United States, mhansen@ce.berkeley.edu

Abstract Details

Title: Scheduling Aircraft Landings using Airlines' Preferences

Presenting Author: Maarten Soomer, mjsoomer@few.vu.nl

Abstract: Airlines currently have little influence on tactical airport arrival planning. However airline operations and cost heavily depend on these decisions. A method will be presented to schedule aircraft landings, taking airlines' cost for each flight into account. The method also provides a safe and efficient arrival schedule. Experiments, using data from a week at a major European hub show, especially under low-visibility conditions, all airlines obtain considerable savings.

Title: Designing a Real-Time Intermodal System for Airline Use

Presenting Author: Yu Zhang, UC Berkeley, 107A McLaughlin Hall, UC Berkeley, Berkeley CA 94720, United States, zhangyu@berkeley.edu

Co-Author: Mark Hansen, Professor, University of California at Berkeley, 107 McLaughlin Hall, Berkeley CA 94720, United States, mhansen@ce.berkeley.edu

Abstract: In the national airspace system, most of the delay is caused by adverse weather. To address the problem of a hub airport facing capacity reduction due to adverse weather, we propose a real-time intermodal system by embedding surface transportation modes into solutions for schedule recovery problems. Passenger-related information communication and market issues involved in gaining consumer acceptance of the system are also discussed.

Title: Block.buster – A Mathematical Model, Heuristic and DSS for Planning of Road Feeder Services

Presenting Author: Ulrich Derigs, derigs@informatik.uni-koeln.de

Abstract: All major cargo airlines operate a multi-modal hub and spoke network with transportation from and to the hubs performed on the ground using specifically equipped trucks. Within Europe the majority of air cargo is transported via trucks due to time and cost reasons. In this paper we present a model and an associated heuristic which has been implemented in a decision support system called block.buster for supporting planning as well as operations of these road feeder services.

Title: Econometric Analysis of Aircraft Size and Service Type: the Case of LaGuardia Airport

Presenting Author: Chieh-Yu Hsiao, University of California at Berkeley, 107 McLaughlin Hall, University of California at Berkeley, Berkeley CA 94720, United States, cyhsiao@berkeley.edu

Co-Author: Mark Hansen, Professor, University of California at Berkeley, 107 McLaughlin Hall, Berkeley CA 94720, United States, mhansen@ce.berkeley.edu

Abstract: A given level of air traffic can be served with more flights on small aircraft or fewer flights on large ones. There are many factors, such as slot controls, that influence this tradeoff. This research compares LGA markets with other markets to investigate if there are systematic differences in the service type and the size of aircraft used, or in the influence of factors such as stage length and market density on aircraft size.
