Imperial College London

New Scheduling Models with Applications in Logistics and Operations Management

Dr. Dirk Briskorn (Assistant Professor at University of Kiel, Germany)

Monday, 18 January 2010 - 16:00

Location: Room 601, Skempton (Civil Eng.) Bldg, Imperial College London

Abstract

In this seminar, two new machine scheduling models, motivated by problems arising in the context of logistics and operations management, are presented. The first model represents the problem to schedule trucks at a transhipment terminal. Here, trucks deliver goods that are picked up by other trucks later on. Naturally, a pickup truck cannot be processed if the inventory does not contain enough goods. Several variations of the problem are outlined. The second model represents the problem to schedule jobs on a single machine subject to machine deterioration. A maintenance level indicating the machine`s state is considered. The maintenance level drops while jobs are processed by a job dependent amount. Maintenance activities can be scheduled after each job. Two variants of the problem framework are distinguished.

Biography

Dr. Dirk Briskorn studied "Applied Computer Science and Business Administration" at the University of Cologne, Germany, from 2000 to 2004. His master thesis is entitled "A new Lagrangian Decomposition Approach for lot sizing with setup carry-over". From 2004 to 2007 he was a PhD student at the department of logistics and operations management at the University of Kiel, Germany. His PhD thesis is entitled "Sports Leagues Scheduling - Models, Combinatorial Properties, and Optimization Algorithms". After finishing his PhD he became an assistant professor at the department of logistics and operations management at the University of Kiel, Germany. Nowadays, his main research focus is on machine scheduling.