IEEE Taskforce on Evolutionary Scheduling and Combinatorial Optimisation

IEEE Computational Intelligence Society

Evolutionary Computation Technical Committee

Evolutionary Scheduling and Combinatorial Optimisation Webinar Series

Webinar #13: Unveiling the winning algorithm: A sequence-based selection hyper-heuristic approach to the ROADEF/EURO inventory routing challenge

Speaker: Ahmed Kheiri, Senior Lecturer, Lancaster University, UK
Date: 13 May 2024
Time: 9:00 - 10:00am (London Time, UTC+1)

Speaker Biography

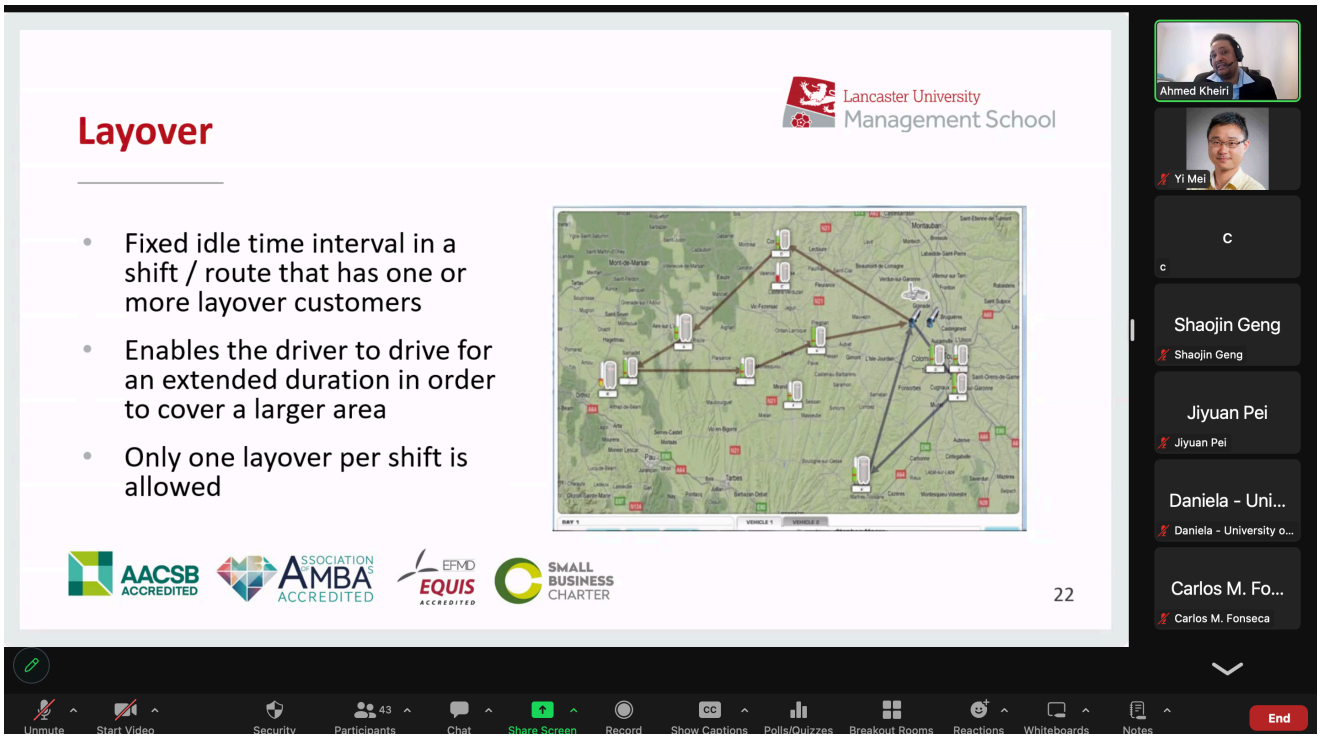
Dr Ahmed Kheiri is a Senior Lecturer in Operations Research at Lancaster University Management School, Department of Management Science. Dr Kheiri is the Co-leader of the Fundamentals Theme of the Lancaster Intelligent, Robotic and Autonomous systems (LIRA) Research Centre. His research interests lie at the intersection of operational research and computer science, investigating general cross domain optimisation methods to solve NP-hard optimisation problems. He has published more than 50 refereed papers in reputable journals and highly respected international conferences. During his career, he received several academic awards some are awarded from participation in international optimisation challenges. He has co-chaired several workshops, edited several books, given many invited talks, organised several international conferences, reviewed numerous academic journal articles and has served on many program/technical committees in major international conferences.

Abstract

In this webinar, Ahmed will discuss a real-world inventory routing problem with a focus on healthcare services delivering large volumes of liquid oxygen to large numbers of hospitals worldwide subject to a variety of constraints. The problem instances have been provided by AirLiquide, a French multinational company which supplies industrial gases and services to various industries. The goal is to assign delivery and loading shifts to match the demand requirements subject to a set of soft and hard constraints in order to minimise the total distribution cost and maximise the total quantity delivered over the planning horizon. He will describe the state-of-the-art selection hyper-heuristic method for solving this scheduling and routing problem, and describe the advantages of using data science techniques for the heuristic selection.

The Webinar went very successful, with 40+ participants.

The slides of the Webinar can be found here.



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