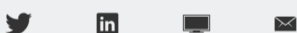


# WEBINAR WEDNESDAY

A selection hyper-heuristic for  
inventory routing problem

Dr Ahmed Kheiri

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## About the webinar

30 November 2022 | 6:00pm | via Zoom

### A selection hyper-heuristic for inventory routing problem

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 Air Liquide, 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.

#### The session will cover:

- Description the Air Liquide inventory routing problem
- Introduce the concept of hyper-heuristics
- Present the state-of-the-art hyper-heuristic method in solving the problem
- Describe the advantages of using data science techniques for the heuristic selection

#### About Ahmed Khari:

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 40 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.

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# What people think of our webinars?



As a retired member I find these webinars keep me up to date on my topics of interest.

Previous attendee



Being new to OR, and knowing a little about machine learning, it was really interesting to see some different machine learning approaches and their synergy with optimisation problems.

Previous attendee



I enjoyed being shown the software rather than just a talk or PowerPoint presentation.

Previous attendee

## Contact Us

If you have any queries regarding our Webinar Wednesday programme do not hesitate to contact our events team.



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