Centre for Discrete Mathematics and its Applications (DIMAP)

THE UNIVERSITY OF WARWICK

DIMAP:

DIMAP is a multidisciplinary research centre of the University of Warwick supporting an internationally competitive programme of research in discrete modelling, algorithmic analysis, and combinatorial (discrete) optimisation. It is DIMAP's mission to reach out to UK businesses and to establish research collaborations to strengthen their position. Companies will benefit from access to internationally leading expertise in discrete mathematics (including network optimization, distributed games and auctions, optimal transport and rearrangements), developing new relationships, broadening the sources of knowledge for their business, and getting problems solved.

DIMAP is partially funded by an EPSRC Science and Innovation Award.

http://go.warwick.ac.uk/dimap

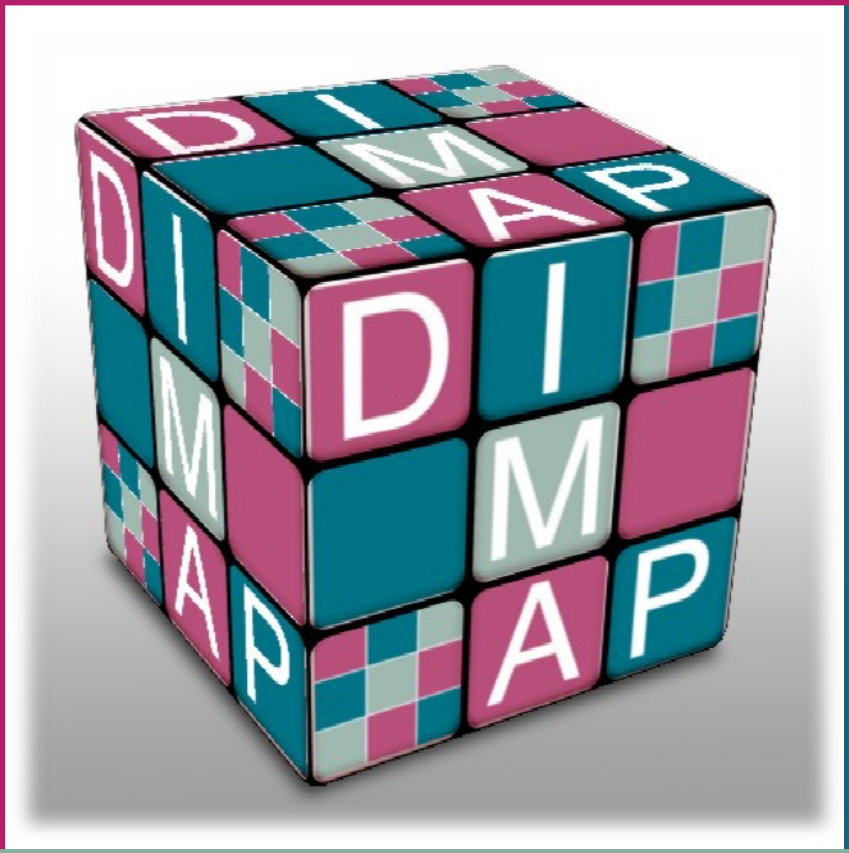
The Industrial Mathematics Knowledge Transfer Network:

The Industrial Mathematics Knowledge Transfer Network (KTN) accelerates business innovation through the use of mathematics. It brings together companies, government and universities to create and exploit new opportunities, and is actively supporting DIMAP in its outreach activities. The Industrial Mathematics KTN is part of the Technology Strategy Board's wider KTN programme.

http://www.industrialmaths.net

Venue and participation:

The workshop will held at the Mathematics Institute, University of Warwick, Coventry CV4 7AL. Attendance is free of charge, but advance registration is requested. Please e-mail dimap@dcs.warwick.ac.uk before 4 April 2009 to confirm your attendance.



University of Warwick, 20 April 2009

DIMAP workshop on Public Transport and Public Service Operations

A workshop for sharing research interests and key issues in public transport and the transport component of public service delivery

Industrial Mathematics Knowledge Transfer Network

DIMAP workshop on
Public Transport and Public Service Operations

University of Warwick, 20 April 2009

About the workshop:

The workshop will encourage the exchange of operational, computational and mathematical perspectives on key issues in public transport and public services. Its purpose is to raise awareness of challenges, capabilities and potential solutions, in areas such as timetabling, scheduling, maintenance planning and asset management. The programme will encourage networking and stimulate the formation of new relationships.

About the keynote speaker:

Professor **Leo Kroon** is a Logistic Consultant of Netherlands Railways / NS, working on decision support tools for railway planning and real-time operations. He also is Professor of Quantitative Logistics at the Rotterdam School of Management (RSM) of Erasmus University.

About the keynote address:

In 2008, Dutch Railways won the **Franz Edelman Award** in recognition and reward of their outstanding use of combinatorial optimization and discrete mathematics in the design of a completely new timetable facilitating growth of passenger and freight transport on their highly utilized railway network, and to improve the robustness of the timetable in order to reduce the number of train delays in the operation. The more efficient resource schedules and the increased number of passengers has already resulted in an annual additional profit of 40 million Euros and expected to increase to 70 million Euros in coming years. However, the benefits of the new timetable for the Dutch society as a whole are much higher: more trains are transporting more passengers on the same railway infrastructure, and all these trains run more on time than ever before.

Programme:

12:30 - 13:30	Arrival and lunch
13:30 - 13:45	Artur Czumaj (Director of DIMAP) ***Welcome and Introduction***
13:45 - 14:45	Keynote address: Prof Leo Kroon (NS Dutch Railways) ***Operations research models for planning and real-time operations of railway systems***
14:45 - 15:15	Coffee break
15:15 - 15:30	Harald Räcke (DIMAP) ***Selfish traffic and online algorithms***
15:30 - 15:45	Robert MacKay (Centre for Complexity Science) ***Optimal scheduling in a periodic environment***
15:45 - 16:15	Vladimir Deineko (DIMAP) ***Vehicle routing in the public sector: Coventry City Council case study***
16:15 - 17:00	Panel discussion, led by Robert Leese (Director, KTN for Industrial Mathematics)
17:00 - 17:45	Drinks reception

Workshop speakers:

Harald Räcke is a DIMAP Assistant Professor in the Department of Computer Science at the University of Warwick. His main interest is in network routing algorithms.

Robert MacKay is a Professor of Mathematics, Director of Mathematical Interdisciplinary Research, and Director of the Centre for Complexity Science at the University of Warwick.

Vladimir Deineko is an Associate Professor of Operational Research in Warwick Business School, specialising in vehicle routing problems.

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