

DISCRETE OPTIMIZATION - WORKSHOP ON APPLICATIONS IN LOGISTICS, TRANSPORT, AND NETWORKS

Day 1 – Tuesday 12 October - Applications in Logistics and Networks

Official Opening

- 8:30-8:40 Gary Ferris (I&INSW)
- 8:40-8:50 Tony Guttman (Director of MASCOS)
- 8:50-9:00 Tony Dooley (Head of the School of Mathematics and Statistics, UNSW)
- 9-9:45 Martin Grötschel (Zuse Institute Berlin and TU Berlin)
Online problems and logistics
- 9:45-10:15 Ross Halgren (Haltec Enterprises)
NBN capacity requirements
- 10:15-10:45 Therese Keane (DSTO)
Scheduling in amphibious operations
- 10:45-11:15 Morning Tea
- 11:15-11:45 Jerzy Filar (Univ. South Australia)
A Markov chain inspired view of the hamiltonian cycle and travelling salesman problems
- 11:45-12:15 Martin Savelsbergh (CSIRO)
The multi-depot vehicle routing problem: an integer programming-based heuristic
- 12:15-2:00 Lunch
- 2:00-3:30 Workshop Discussion
- 3:30-4:00 Afternoon Tea
- 4:00-5:00 Workshop Discussion

Day 2 – Wednesday 13 October - Applications in Mining and Supply Chains

- 9-9.45 Gary Froyland (UNSW)
Optimization in mining projects: strategic planning and uncertain information
- 9.45-10.15 Jorge Amaya (Univ. Chile)
Discrete and continuous mathematical formulation for the open pit mine planning problem
- 10.15-10.45 Nelson Morales (Univ. Chile)
Short-term open pit planning with blending constraints
- 10.45-11.15 Morning Tea
- 11.15-11.45 Pierre Nancel-Penard (Univ. Chile)
The open pit mine production scheduling problem with multiple destinations
- 11.45-12.15 Natasha Boland (Univ. Newcastle)
The Hunter Valley coal export supply chain
- 12.15-12.45 Christina Burt (Univ. Melbourne)
Modelling the equipment selection problem for surface mines using MIP
- 12.45-2.00 Lunch
- 2.00-5.00 Combined Workshop Discussion, afternoon tea and iCinema UNSW Virtual Reality Mine tour at 2 venues:
iCinema Scientia AVIE (AVIE - Advanced Visualisation and Interaction Environment) facility: UNSW
AVIE Unit and iDome: School of Mining: UNSW

Day 3 – Thursday 14 October - Applications in Transport

- 9-9.45 Ralf Borndörfer (Zuse Institute Berlin and Löbel, Borndörfer & Weider GbR)
Optimization in public transportation
- 9.45-10.15 Phil Howlett (Univ. South Australia)
Estimating the robustness of train plans for single-line corridors with crossing loops
- 10:15-10.45 Thomas Schlechte (Zuse Institute Berlin)
Railway track allocation
- 10.45-11.15 Morning Tea
- 11.15-11.45 Stephen Watt (Univ. Western Ontario & Descartes Systems Group, Canada)
Routing and scheduling challenges for a service provider
- 11:45-12.15 Guoqing Zhang (Univ. Windsor, Canada)
The multi-period constrained newsboy problem with supplier discounts
- 12.15-12.45 Kevin White (Univ. South Australia)
Integer linear programming models for rescheduling of air traffic
- 12.45-2.00 Lunch
- 2:00-3.30 Workshop Discussion
- 3:30-4.00 Afternoon Tea
- 4:00-5.00 Workshop Discussion

Day 4 – Friday 15 October - Modelling and solver software with a transport network case study

- 9-9.45 Thorsten Koch (Zuse Insitute Berlin)
State of the art in integer programming and extensions
- 9.45-10.15 Timo Berthold (Zuse Insitute Berlin)
SCIP – solving constraint integer programs
- 10:15-10.45 Stefan Heinz (Zuse Institute Berlin)
Applications of constraint integer programming
- 10.45-11.15 Morning Tea
- 11.15-11.45 Mark Wallace (Univ. Monash)
Accelerating search using constraint programming
- 11:45-12.15 Stefan Vigerske (Humboldt University)
Extending SCIP towards MINLP
- 12:15-12.45 Ambros Gleixner (Zuse Institute Berlin)
Applications of non-convex MINLP
- 12.45-2.00 Lunch
- 2.00-2.30 Jesco Humpola (Zuse Institute Berlin)
Putting it all together: optimizing petroleum gas transport networks
- 2.30-3.30 Workshop Discussion
- 3.30-4.00 Afternoon Tea
- 4.00-5.00 Workshop Discussion
- 5.00pm Workshop Closes

