

Recent Advances in Multi-Objective Optimization

Programme

24 June 2016, Lancaster

The workshop takes place in LT4, Lancaster University Management School. Coffee and lunch are served in the breakout area outside the theatre.

8:30 – 9:00 Registration

9:00 – 10:00 Opening and Keynote I

Chair Matthias Ehrgott

09:00 – 09:10 Opening

09:10 – 10:00 Gabriele Eichfelder (Technische Universität Ilmenau)

Multi-objective regularization robustness and set optimization with the set approach

10:00 – 10:10 Break

10:10 – 11:25 Session 1: New Exact Solution Algorithms

Chair Michael Stiglmayr

10:10 – 10:35 Jörg Fliege (University of Southampton)

An SQP-type method for constrained and unconstrained nonlinear multiobjective optimization

10:35 – 11:00 Ethan Liu (Lancaster University)

Primal and Dual Methods for Linear Optimisation over the Non-dominated Set of a Multi-objective Linear Programme and Computing the Nadir Point

11:00 – 11:25 Sune Lauth Gadegaard (Aarhus Universitet)

Bound set based branch-and-cut algorithms for bi-objective combinatorial optimization problems

11:25 – 11:40 Coffee Break

11:40 – 12:40 Session 2: Representative Sets

Chair Alexander Engau

11:40 – 12:10 Tobias Kuhn (Technische Universität Kaiserslautern)

A coverage-based box-algorithm to compute a representation for optimization problems with three objective functions

12:10 – 12:40 Michael Stiglmayr (Bergische Universität Wuppertal)

Representation of the non-dominated set of multiobjective combinatorial optimization problems

12:40 – 14:00 Lunch Break

14:00 – 15:30 Session 3: Applications and Complexity

Chair Marc Goerigk

14:00 – 14:30 Britta Schulze (Bergische Universität Wuppertal)
*Unconstrained Binary Multiobjective Optimization: Weight Space
Decomposition, Arrangements of Hyperplanes and Zonotopes*

14:30 – 15:00 Alexander Engau (University of Colorado Denver)
*Improved discriminant analysis using multi-hyperplane separation
and multi-criteria optimization*

15:00 – 15:30 Alain Zemkoho (University of Southampton)
*Multiobjective bilevel optimization: A set valued optimization view
point*

15:30 – 15:50 Coffee Break

15:50 – 16:50 Session 4: Uncertainty and Multi-Objective Optimisation

Chair Jörg Fliege

15:50 – 16:20 Corinna Krüger (Georg-August-Universität Göttingen)
On Decision Uncertainty in Multiobjective Linear Programming

16:20 – 16:50 Marc Goerigk (Lancaster University)
*Robust and Multiobjective Optimisation: Opportunities and Chal-
lenges*

16:50 – 17:00 Break

17:00 – 18:00 Keynote II and Closing

Chair Matthias Ehrgott

17:00 – 17:50 Firdevs Ulus (Bilkent Üniversitesi)
Algorithms for Convex Vector Optimization Problems