Dagstuhl Seminar 12041
Learning in Multiobjective Optimization

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Proposed Programme of Activities

Our vision is for a seminar that encourages the free exchange of ideas around the organizing subject of _learning_ in MCDM and multiobjective optimization. The following programme provides a skeleton of activities we propose. Participants should suggest amendments to this programme as the week progresses. We encourage the spontaneous formation of working and discussion groups among the participants. We hope you find the week most stimulating !

MONDAY 23rd January (THEME: Learning and Interaction)

7.30-8.45	Breakfast
8.45-9.15	Opening welcome and introduction (Joshua Knowles)
9.15-9.45	Round of personal introductions (all participants)
9.45-10.30	Opening Invited Talk - **Interactive Multiobjective Optimization from a Learning Perspective** (Juergen Branke, Julian Molina, Roman Slowinski)
10.30-10.45	Questions and discussion
10.45-11.00	Coffee break

11.00-11.45	Keynote Talk - **User preferences in EMO : what can be learned from preference elicitation ?** (Vincent Mousseau)

11.45-12.00	Questions and discussion
12.15-13.15	Lunch
13.15-13.45	Contributed Talk - **Modelling bipolar interactions in robust ordinal regression: the UTA^{GSS} method** (Salvatore Greco, Johannes Siebert, Roman Slowinski) (20min talk + 10 min questions and discussion)
13.45-14.15	Contributed Talk - **Pareto Navigator: Learning-Oriented Method for Interactive Multiobjective Optimization** (Jussi Hakanen, Kathrin Klamroth, Kaisa Miettinen, Vesa Ojalehto) (20 + 10min)
14.15-15.30	Participants to suggest questions as topics for working groups
15.30-16.00	Coffee break
16.00-17.00	Discussion of proposed questions and arrangement of participants into working groups
17.00-18.00	First meeting of discussion/working groups.
18.00-19.00	Dinner

TUESDAY 24th January (THEME: User Preferences)

7.30-8.45   Breakfast

8.45-9.15   Contributed Talk – **Can a Linear Value Function Explain Choices? An Experimental Study** (Pekka Korhonen, Kari Silvennoinen, Jyrki Wallenius and Anssi Öörni) (20 + 10min)

09.15-10.00   Keynote Talk – **Cynefin: Problem Formulation and Uncertainty** (Simon French)

10.00-10.15   Questions and discussion

10.15-10.45   Coffee break

10.45-11.15   Contributed Talk - **A General Framework for Integrating User Preferences With Evolutionary Multiobjective Optimization - Towards Making the Weighted Hypervolume Approach User-Friendly** (Dimo Brockhoff) (20 + 10min)

11.15-11.45   Contributed Talk - **Optimization in Logistics from a Learning Perspective: The Case of the Multi-Objective Vehicle Routing Problem** (Martin J Geiger) (20 + 10min)

11.45-12.15   Contributed Talk – **Extreme ranking analysis and rank related requirements in multiple objective optimization** (Milosz Kadzinski, Salvatore Greco and Roman Slowinski) (20 + 10min)

12.15-13.45   Lunch

13.45-14.15   Contributed Talk - **Risk and Return in Multiobjective Optimization** (Carlos Fonseca, Iryna Yevseyeva and Michael Emmerich) (20 + 10min)

14.15-14.45   Contributed Talk – **Approximation Factor as the Aim of Multiobjective Optimization and the Hypervolume Indicator** (Tobias Friedrich) (20 + 10min)

14.45-18.00   Second meeting of working groups (includes coffee break)

18.00-19.00   Dinner

WEDNESDAY 25th January (THEME: Problem Understanding)

7.30-8.45   Breakfast

8.45-9.15   Contributed Talk – **Learning from Pareto-Front Approximations of Real-World Optimization Problems – A Clustering Approach** (Tamara Ulrich) (20+10min)

09.15-10.00   Keynote Talk – **Innovization: Learning Problem Knowledge Through Multi-Objective Optmization** (Kalyanmoy Deb)

10.00-10.15   Questions and discussion

10.15-10.45   Contributed Talk - **Adapting MOEAs to solve practical complex engineering problems** (António Gaspar-Cunha, José Carlos Ferreira, Carlos M. Fonseca, José A. Covas) (20min talk + 10 min questions and discussion)

10.45-11.00   Coffee break

11.00-11.30   Contributed Talk - **Simulation-Based Innovization using Data Mining and Visual Analytics for Production Systems Analysis** (Amos HC Ng) (20 + 10min)

11.30-12.00   Contributed Talk – **Problem Understanding with Data Mining of Pareto-Optimal Designs in Space Engineering** (Akira Oyama) (20 + 10min)

12.15-13.15   Lunch

13.30   Group photo outdoors

                Excursion (Hike)

18.00-19.00   Dinner

19.30-20.30   Summaries of Working Group Discussions and Next Steps

THURSDAY 26th January (THEME: The Problem Solving Process)

7.30-8.45   Breakfast

8.45-9.15   Contributed Talk – **Learning Tradeoffs in Multiobjective Optimization:**
                A Cone-based Approach (Margaret M Wiecek) (20 + 10min)

09.15-10.00   Keynote Talk – **Hybrid Evolutionary Multi-Objective Optimization: Different**
                Interaction Styles and an Approach (Jyrki Wallenius)

10.00-10.15   Questions and discussion

10.15-10.45   Contributed Talk - **Offline Automatic Configuration in Multi-Objective**
                Optimization (Manuel López-Ibáňez and Thomas Stützle) (20 + 10 min)

10.45-11.00   Coffee break

11.00-11.30   Contributed Talk - **Problem solving process in engineering applications:**
                multiobjective optimization and user preferences (Silvia Poles) (20 + 10min)

11.30-12.00   Contributed Talk – **Multiobjective optimization in self-optimizing systems and**
                applications (Katrin Witting) (20+10min)

12.15-13.15   Lunch

13.30-18.00   Working groups (includes coffee break)

18.00-19.00   Dinner

20.00   Wine and Cheese Event (Music Room)

FRIDAY 27th January (Wrap-Up)

7.30-8.45	Breakfast
8.45-10.15	Working Group Presentations
10.15-10.30	Coffee
10.30-12.00	Whole Group Discussion and Wrap-Up
12.15-13.15	Lunch and goodbye