

Workshop on

“Artificial Intelligence Supported Decision Making in Industry”

dedicated to the findings and results of the FiDiPro project DECOMO:
Decision Support for Complex Multiobjective Optimization Problems

Date: September 5th, 2017

Place: Room Alfa, Agora building, Mattilanniemi 2, University of Jyväskylä (JYU)

Program

Time	
11:30 – 11:35	Opening by Professor Kaisa Miettinen
11:35 – 12:00	Professor Yaochu Jin: A brief overview of the DeCoMo project
12:00 – 12:40	Multiobjective optimization in complex systems (Tentative) – Dr. Markus Olhofer, Honda Research Institute Europe GmbH
12:40 – 13:20	Handling computationally expensive multi/many objective optimization problems – Mr. Tinkle Chugh, JYU
13:20 – 13:50	Shape optimization of an air intake ventilation system (Tentative) – Mr. Pekka Makkonen, Valtra
13:50 – 14:20	Data driven multiobjective optimization – Mr. Tinkle Chugh, JYU
14:20 – 14:40	Coffee break
14:40 – 15:30	Keynote: A taxonomy of metamodeling methods for multiobjective optimization: initial results (Tentative) – Prof. Kalyanmoy Deb, MSU, USA
15:30 – 16:10	Interactive surrogate assisted multiobjective optimization – Dr. Jussi Hakanen, JYU
16:10 – 17:00	Keynote: Industrial applications of multicriteria decision support - Prof. Dr. Karl-Heinz Küfer, Fraunhofer ITWM
17:00 – 17:30	Software prototype – Demo – Dr. Karthik Sindhya, JYU
17:30 – 17:40	Conclusions by Professor Markus Reuter
19:00 – 21:00	Dinner

There will be time for discussion after each talk

- Registration link:

<https://forms.office.com/Pages/ResponsePage.aspx?id=WC1m6aTKwUuxOMixrKtaEYMJoTwe5JEqUAIss4ovOhUNFdUUkJZRLcxVEFTNURUWTdRNjVNVFhaVC4u>

- Room for the first 50 registered participants

Participation is free of charge but a no show fee of 100 euros will be charged.

Abstracts

Prof. Karl-Heinz Kiefer, Fraunhofer ITWM

Industrial applications of multicriteria decision support

Most decisions in life are compromises: typically several objectives arising from the families cost, quality, time, environmental impact have to be balanced. This process is not easy because one cannot have best possible values for all of these goals as they are at least partially in conflict. Many decision makers are reluctant with respect to introducing decision support tools that directly show what the possible freedom of choice or inherent restrictions are. They often do not want to defend personal preferences or biases in decision rounds which would become obvious by showing options and limitations in a fair way.

The talk will demonstrate and discuss three examples of decision support tools in medical therapy planning, chemical process engineering and in the layout of renewable energy facilities, all of them in industrial practice for 5 years and more. Special attention is paid to the reception of such concepts in the companies and their impact if successfully implemented.