



Optimization and Design of ExperimentS (ODES): the search of information in high dimensional spaces.

Workshop
Organizers: Irene Poli and Michele Forlin

European Centre for Living Technology

Ca' Minich, S. Marco 2940
VENICE, June 15 - 16

PURPOSE

The purpose of the workshop is:

- to discuss Designs and Models of combinatorially complex experiments.
- to discuss optimization criteria for experimentation.
- to develop future collaborations between different groups of theoreticians as well as with some experimental groups.
- to outline an agenda of key topics to be addressed in future experimental design activities

Friday, 15

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| 09:00 – 09:45 | <i>Reception</i> |
| 09:45 – 10:00 | Opening Session Welcome <i>Norman Packard</i> CoDirector, ECLT |
| 10:00 – 10:45 | Modeling Evolutionary Designs of Experiments <i>Irene Poli</i> University Ca' Foscari, Venice, Italy |
| 10:45 | <i>Coffee break</i> |
| 11:15 – 12:00 | Genetic Algorithms as Screening Designs <i>James Cawse</i> ProtoLife, Venice, Italy |
| 12:00 – 12:45 | Model-based Genetic Algorithms for Designing Mixture Experiments <i>Michele Forlin</i> University Ca' Foscari, Venice, Italy |
| 13:00 | <i>Lunch (Palazzo Franchetti Cafeteria)</i> |

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| 14:30 – 15:15 | Practical experience of integrating Genetic Programming and statistical modeling <i>Flor Castillo</i> The Dow Chemical Company, Freeport, TX, USA |
| 15:15 – 16:00 | Evolutionary Algorithms for Self-Assembling Systems: Simulations as a Tool for the Development of Novel Optimization Strategies <i>Rudolf Fuchslin</i> Ruhr University Bochum, Germany |
| 16:00 | <i>Coffee break</i> |
| 16:30 – 17:15 | Nonlinearity Reduction and Ordinal Optimization for modeling hard problems in industrial data analysis (New flavours in Genetic Programming) <i>Katya Vladislavleva</i> Department of Operations Research, Tilburg University, The Netherlands |
| 17:15 – 18:00 | Evolutionary computing: what are the differences? <i>Richard Walker</i> Xiwrite S.a.s., Rome, Italy |

Saturday, 16

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| 09:15 – 10:00 | A Gestalt Genetic Algorithm: Less details for better search <i>Hugues Bersini</i> IRIDIA, Université Libre de Bruxelles, Brussels, Belgium |
| 10:00 – 10:45 | Microfluidics in an integrated system: pros and cons of the pico-liter chemistry <i>Uwe Tangen</i> Ruhr University Bochum, Germany |
| 10:45 | <i>Coffee break</i> |
| 11:15 – 12:00 | Variable Selection in industrial datasets using Pareto Symbolic regression via Genetic Programming <i>Guido Smits</i> Department of Engineering Sciences, Dow Chemical Company, Belgium |

12:00 – 12:45

**D-optimal designs for estimating of extremum
point of multivariate quadratic regression model**

Andrey Pepelyshev

Department of Mathematics, Saint-Petersburg State
University, Russia

13:00

Lunch (Palazzo Franchetti Cafeteria)