Two-day Workshop (11-12 June 2014) on
"Scheduling and Optimization of Batch and Continuous Process Operations"

held in association with Research Group of Process Control & Automation, Aalto University

PROGRAMME

The workshop is aimed at providing state-of-the-art technology in modeling and solution of scheduling optimization problems related to process operations in chemical industries. The workshop assumes no prior knowledge in this area and will cover development of scheduling models based on different process and time representations. Several applications including scheduling of refineries, petrochemicals, pulp and paper, and other fast moving consumer goods (FMCG) manufacturing plants will be discussed. The applications can be customized or fine-tuned based on the interests of the audience. A couple of hand-on sessions are also included on using GAMS software for solving these models.

Day 1 (11 June 2014, Thu):

9:00 – 10:00	**Overview of Planning and Scheduling;** **Short-term Scheduling of Batch Plants : Discrete-Time Model**
10:00 – 10:15	*Coffee Break*
10:15 – 11:15	**Short-term Scheduling of Batch Plants: Slot-based and Global-event based Continuous-Time Models**
11:15 – 12:00	*Lunch Break*
12:00 – 13:30	**Short-term Scheduling of Batch Plants: Unit-Specific Event-based Continuous-Time Models**
13:30 – 13:45	*Coffee Break*
13:45 – 15:00	**Hands-on Session** Optimization using GAMS software: Getting Started (Implementation of Discrete –Time scheduling model)

Day 2 (12 June 2014, Fri):

9:00 – 10:00	**Short-term Scheduling of Continuous Plants: Industrial Case Study of Fast Moving Consumer Goods Manufacturing**
10:00 – 10:15	*Coffee Break*
10:15 – 11:15	**Cyclic Scheduling of Continuous Plants and Refinery Operations**
11:15 – 12:00	*Lunch Break*
12:00 – 13:30	**Scheduling of Crude-oil Unloading and Loading Operations**
13:30 – 13:45	*Coffee Break*
13:45 – 15:00	**Hands-on Session** Optimization using GAMS software (Implementation of cyclic scheduling model)

Programme Coordinator & Speaker :
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References:

Floudas CA, Lin X. Continuous-time versus discrete-time approaches for scheduling of chemical processes: A review. *Comp. Chem. Eng*. 2004; 28:2109–2129.

Mendez CA, Cerda J, Grossmann IE, Harjunkoski I, Fahl M. State-of-the-art review of optimization methods for short-term scheduling of batch processes. *Comp. Chem. Eng*. 2006; 30:913-946.

Shaik MA, Janak SL, Floudas CA. Continuous-time models for short-term scheduling of multipurpose batch plants: A comparative study. *Ind. Eng. Chem. Res*. 2006; 45:6190-6209.

http://www.gams.com