One-day Workshop on Online Process Optimization – Grand Challenges and Opportunities

* What is the correct problem formulation?
* How to make use of new data-based methods, machine learning.
* What approach will win in the end?
* Hierarchical versus centralized approaches.

Program:

09:00 - 09:15  Coffee and mingling
09:15 - 09:30  Welcome and Introduction by Sigurd Skogestad, NTNU
09:30 - 09:50  Short introduction by NTNU groups working on online process optimization (one slide overview on each research group).
   Johannes Jäschke, Sebastien Gros, Lars Imsland, Morten Hovd, Alexey Pavlov, Sigurd Skogestad.
09:50 - 10:50  Keynote talk by Jay H. Lee, KAIST, Korea (45min + 15 min discussion)
   Model based Control and Reinforcement Learning: Alternatives or Complementary?“
10:50 - 11:10  Coffee Break
11:10 – 12:00  Keynote talk by David Q. Mayne, Imperial College, UK (25min +25min discussion).
   “Robust and Stochastic MPC; what is the correct formulation?”
12:00 - 13:00  Lunch at Kjelhuset (all invited)
13:00 - 13:20  Talk by Sergio Lucia, TU Berlin, Germany (10min + 10min discussion)
   “Approximate model predictive control based on machine learning and probabilistic verification”
13:20 - 13:40  Talk by John B. Jørgensen, DTU, Denmark (10min + 10min discussion)
   “Nonlinear model predictive control based on stochastic differential equations”
13:40 - 14:00  Industrial needs
14:00 - 14:40  Discussions with Manfred Morari, ETH/U Penn, Switzerland/USA **
   (30 min interview+ 10 min discussion). Discussant - Sigurd Skogestad
14:40 - 15:15  Group Work – Open challenges (+ coffee)
15:15 - 15:30  Each group presents short conclusions
15:30 - 16:00  Concluding panel discussion – Good problems to work on for the future. Panel members: Mayne, Morari, Lee (Moderator: Skogestad)
16:00 – 17:30  Reception with drinks and snacks (all invited)
19:00  Dinner (presenters invited)
Registration is open for the NTNU community and invited guests. **Deadline: 25. Oct. 2019.**

List of registered participants

You are also welcome to attend the PhD Defense of Dinesh Krishnamoorthy on 07 Nov 2019 at the same place. Thesis title: “Novel Approaches to Online Process Optimization Under Uncertainty”.