

## Workshop 08 Nov. 2019 on Online Process Optimization – Grand Challenges and Opportunities

Venue: PFI Auditorium (5th floor), Høgskoleringen 6B, Trondheim ([link](#)).  
See registration below.

### 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). <i>Johannes Jäschke, Sebastien Gros, Lars Imsland, Morten Hovd, Alexey Pavlov, Sigurd Skogestad.</i>
09:50 - 10:50	Keynote talk by Jay H. Lee, KAIST, Korea (45min + 15 min discussion) <i>Model based Control and Reinforcement Learning: Alternatives or Complementary?"</i>
10:50 - 11:10	Coffee Break
11:10 - 12:00	Keynote talk by David Q. Mayne, Imperial College, UK (25min +25min discussion). <i>"Robust and Stochastic MPC; what is the correct formulation?"</i>
12:00 - 13:00	<b>Lunch at Kjelhuset (all invited)</b>
13:00 - 13:20	Talk by Sergio Lucia, TU Berlin, Germany (10min + 10min discussion) <i>"Approximate model predictive control based on machine learning and probabilistic verification"</i>
13:20 - 13:40	Talk by John B. Jørgensen, DTU, Denmark (10min + 10min discussion) <i>"Nonlinear model predictive control based on stochastic differential equations"</i>
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). <i>Discussant - Sigurd Skogestad</i>
14:40 - 15:15	<b>Group Work – Open challenges</b> (+ coffee)
15:15 - 15:30	Each group presents short conclusions
15:30 - 16:00	Concluding panel discussion – <i>Good problems to work on for the future. Panel members: Mayne, Morari, Lee (Moderator: Skogestad)</i>
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”*.