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Dynamic Modeling and Optimization Advances with gPROMS

The advent of faster and more powerful computers and improved numerical solvers has allowed us to solve more complex and larger problems. Still we see that in optimization simpler models are commonly used to save CPU. This indicates that there is still a trade-off between more accurate and slower models versus smaller and less accurate models. Stated differently, do we set-up a more complex/larger optimization problem or do we use a more complex/larger model. In this webinar a brief overview of gPROMS is given followed by two case studies demonstrating the capabilities: a whole-plant (steady-state) optimization case study and (dynamic) start-up optimization of part of a plant. In the latter case study two objectives were considered (safety and economics). The results of the whole-plant optimization and the effect of the model complexity on the start-up optimization results will be discussed.

Biography:

Pieter Schmal is a principal Application Engineer and head of PSE Academic for Process Systems Enterprise Inc. Pieter has a Ph.D. in Large-scale dynamic modelling from the University of Technology Delft in The Netherlands. After his Ph.D. Pieter started his own company to commercialize a patent on a new separation method. Pieter did two post-docs, one on HiDiC (heat-integrated column) optimization and control and one on irreversible thermodynamics. In 2008 Pieter joined PSE as a consultant. In 2010 he moved to the New Jersey office of PSE as an Application Engineer.

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