*Title:*

**Planning of Capacity Investments using a Model Predictive Control Approach**

*Authors:*

Jose L. Mojica, jlmojica@gmail.com
John D. Hedengren, john_hedengren@byu.edu

PRISM Research Group
Department of Chemical Engineering
Brigham Young University
350 Clyde Building
Provo, Utah 84602

*Abstract:* Capacity expansion of a district heating network is studied to evaluate the investment decision timing and type of capacity expansion. The study finds the optimal investment schedule over a 30 year horizon with uncertainty in fuel prices and system dynamics. The problem is formulated as an optimal control problem in which an initial system configuration is modified by a "controller" that optimally applies control actions to drive the system from an initial state to an optimal state.

*Session:* Facilities Planning I, Wednesday Oct 09, 13:30 - 15:00

https://informs.emeetingsonline.com/emeetings/formbuilder/clustersessiondtl.asp?csnno=19655&mmnno=248&ppnno=72299

INFORMS Annual Meeting, Minneapolis, MN, Oct 6-9, 2013

http://meetings.informs.org/minneapolis2013/index.html