

# 講演会のご案内

## DATA-BASED MULTI-OBJECTIVE PLANT-WIDE PERFORMANCE OPTIMIZATION OF INDUSTRIAL PROCESSES UNDER DYNAMIC ENVIRONMENTS



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場所: 上智大学 3-136室 (Tentative)

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### ABSTRACT:

In order to guarantee performance in terms of prescribed multi-objective plant-wide production indices, an approach for selecting optimal operational indices for unit processes is proposed using measured data and without knowing dynamical models of the unit process. Techniques from reinforcement learning are used to provide a data-driven optimization technique that guarantees optimal plant-wide process performance. The effectiveness of this automated decision procedure has been demonstrated by implementation on a large mineral processing plant.

### BIOGRAPHY

Jinliang Ding received the Ph.D degrees in Control Theory and Control Engineering from Northeastern University, Shenyang, China. He is currently a Professor with the State Key Laboratory of Synthetical Automation for Process Industry, Northeastern University. He is a senior member of IEEE. He is a technical committee member of IFAC Mining, Mineral and Metal Processing and IFAC Large Scale Complex Systems. He had visited the Control Systems Centre, University of Manchester from April 2010 to March 2012.

His research interests include data-based modelling, control and optimization for the complex industrial systems, intelligent optimization and applications. He has published more than 80 journal or international conference papers. One coauthored paper published on Control Engineering Practice was selected as the CEP Best Paper Award of 2011-2013. He received the National Technological Invention Award in 2013 and received 2 First-prize of Science and Technology Award of Ministry of Education in 2006 and 2012, respectively. He is also the inventor or co-inventor of 17 patents.