IEEE Transactions on Industrial Informatics

CALL FOR PAPERS

for Special Section on

Data-Driven Management of Complex Systems through Plant-Wide Performance Supervision

Theme: At the age of data deluge, a massive amount of data is being produced daily by industrial activities. As a consequence, data-driven techniques have received considerable attention in recent years, both in industry and academia, with particular emphasis on making the most and the best of the available data, without drowning in it. The reasons behind such popularity of data-driven techniques are twofold. On the one hand, advanced data processing and information acquisition technologies have been developed to the extent that large amounts of data in different forms are available for big data analysis from descriptive to prescriptive. On the other hand, with the help of machine learning methodologies, the supervision and management systems can provide effectual decisions for plant-wide optimal performance. Compared to the conventional model-based techniques, the data-driven ones can, not only save the costly modelling procedures, but also extract valuable information from available process data for real-time analysis and management. However, there are many complex and challenging problems in the data-driven supervision and management techniques, such as data-driven supervision on safety, security and robustness, as well as performance-supervised management and their distributed designs.

This Special Issue will focus on the data-driven methodologies of plant-wide performance supervision and management for complex systems, especially the process monitoring, fault-tolerant control and machine learning related ones with their industrial applications.

This special section will focus on (but not limited to) the following topics:

- Data-driven process monitoring techniques.
- Model-free or data-driven control techniques.
- Data-driven performance evaluation and diagnosis.
- Machine learning/Narrow AI based performance optimization.
- Data-driven distributed process monitoring and fault diagnosis.
- Real-time implementation and industrial applications

Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE Transaction on Industrial Informatics http://www.ieee-ies.org/pubs/transactions-on-industrial-informatics . Please submit your manuscript in electronic form through Manuscript Central web site: https://mc.manuscriptcentral.com/tii . On the submitting page #1 in popup menu of manuscript type, select: SS on **Data-Driven Management of Complex Systems through Plant-Wide Performance Supervision**

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Regular manuscript length is 8 pages.

Note: The recommended papers for the section are subject to final approval by the Editor-in-Chief. Some papers may be published outside the special section, at the EIC discretion.

Timetable:

Deadline for manuscript submissions	**March 10, 2020**
Expected publication date (tentative)	August 2020

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