

# THE 20<sup>TH</sup> IEEE INTERNATIONAL CONFERENCE ON INDUSTRIAL TECHNOLOGY IEEE-ICIT 2019

13 - 15 FEBRUARY 2019, MELBOURNE CONVENTION AND EXHIBITION CENTRE, MELBOURNE, AUSTRALIA

Special Session on

## “Advances in Data-Driven Process Monitoring and Control for Complex Industrial Systems”

Organized by

Principal Organizer(s):

Dr.-Ing. **Hao Luo**

(Email: [hao.luo@hit.edu.cn](mailto:hao.luo@hit.edu.cn))  
School of Astronautics Harbin Institute of Technology  
150001, Harbin, P.R. China

Prof. Dr.-Ing. **Abdul Qayyum Khan**

(Email: [aqkhan@pieas.edu.pk](mailto:aqkhan@pieas.edu.pk))  
Department of Electrical Engineering,  
Pakistan Institute of Engineering and Applied Sciences, 45650,  
Islamabad, Pakistan

Prof. **Okyay Kaynak**

(Email: [okyay.kaynak@boun.edu.tr](mailto:okyay.kaynak@boun.edu.tr))  
Department of Electrical and Electronic Engineering, Bogazici Univ.  
Bebek, 80815, Istanbul, Turkey

### Call for Papers

Theme:

Due to the ever-increasing demands on product quality and economic benefit, not only are the intelligent components and devices implemented and networked, but also the real-time supervision and control systems are running in parallel. Consequently, the degree of automation in modern industrial systems is continuously growing. This fact challenges scientists and engineers and forces them to develop advanced process monitoring and control methodologies, using offline stored or online process data to solve optimal process monitoring and control issues. This Special Session is to provide a forum for researchers and industrial engineers to exchange their latest achievements on data-driven process monitoring and control techniques, the integrated data-driven and model-based methodologies, and to discuss the vital issues, challenges and possible future trends in modern large-scale industrial systems. The papers to be accepted in this Special Session are expected to provide latest advances of data-driven design approaches, especially the novel theoretical achievements with practical applications.

Topics of interest include, but are not limited to:

- Data-driven process monitoring approaches and applications.
- Model-free or data-driven control design approaches and applications.
- Data-driven performance evaluation, diagnosis, decisions and their applications.
- Data-driven optimization methods and applications.
- Integrated data-driven and model-based methodologies.
- Real-time learning methods and practical applications.

**IES Technical Committee Sponsoring the Special Session:**

TC on Data-Driven Control and Monitoring