

Open Invited Track on

“Monitoring and Control for Mining, Minerals and Metals”

Organizers: **Zhiwen Chen**, Central South University, China; **Bei Sun**, Central South University, China; **Johan Derik le Roux**, University of Pretoria, South Africa; **Ian K. Craig**, University of Pretoria, South Africa; **Hao Luo**, Harbin Institute of Technology, China.

◆ **Technical Committee Sponsoring the Special Session (if any):**

TC 6.2 Mining, Mineral and Metal Processing

- ◆ **Description:** The aim of this proposal is to discuss and evaluate the recent progress of data analysis as it relates to monitoring, modelling and process control in the mining, minerals and metals industry. Rapid developments in electronics, information and communication technologies are causing huge changes in mining, nonferrous metallurgy, iron and steel making processes. Due to the ever-increasing demands on product quality and economic benefit, intelligent components and devices are implemented and connected to each other and real-time supervision and control systems are running in parallel. Consequently, the degree of automation in modern mining, minerals and metals processes is continuously growing. This challenges scientists and engineers to develop advanced process monitoring and control methodologies to solve optimal process monitoring and control issues. This open invited track would like to provide a forum for researchers and industrial engineers to exchange their latest achievements on data-driven and model-based process monitoring and control techniques and to discuss the vital issues, challenges, and possible future trends in processes of interest. The manuscripts to be accepted in this open invited track are expected to provide the latest advances of data-driven and model-based design approaches, especially the novel theoretical achievements with practical applications.

Topics of interest include, but are not limited to:

- Process monitoring approaches and applications.
- Model-based or data-driven control design approaches and applications.
- Performance evaluation, diagnosis, decisions, and their applications.
- Industrial optimization methods and applications.
- Real-time machine learning methods and practical applications.