

**Call for Papers****Focused Section on****Health Monitoring, Management and Control of Complex Mechatronic Systems**

With the growing demands on production efficiency and the increasing diversity of industrial production, modern industrial manufacturing systems are becoming more and more complicated and intelligent. Since large quantities of actuators, sensors, etc. are incorporated; the probability of system component fault/failure becomes very high. Consequently, modern manufacturing processes are turning into safety-critical systems. This stimulates an ever-increasing demand on the implementation of health monitoring, management, and control approaches to meet increased performance and safety requirements. However, the traditional techniques or approaches may result in an unsatisfactory or inferior performance. Moreover, those approaches may be only appropriate for simple systems; however, they may have little or even no capability for complex industrial systems. Faced with this problem, health monitoring, management, and control including fault tolerant control, fault diagnosis, and health prognosis receive enhanced attention both in engineering and research domains maintaining desirable stability, safety, reliability, resilience, survivability, and increased performance.

This focused section is intended to bring the efforts of the worldwide research community working on health monitoring, management, control approaches for all intelligent manufacturing systems. It is intended to create a platform for scientists, engineers and practitioners to present their latest theoretical and technological advancements in the design of sophisticated/advanced health monitoring, management, and control methods, stability and performance analysis, practical implementation, and various case studies of the applications of these techniques. The topics of interest within the scope of this Special Section include (although not limited to) the following, all being related to mechatronic systems:

- Modeling of complex systems especially with component fault/failure
- Distributed data acquisition and smart sensing
- Big-data techniques including mining, analysis, fusion
- Advanced signal processing including denoising methods
- Novel fault detection, isolation, and diagnosis methods
- Advanced approaches for health monitoring and management
- Residual strength evaluation, health prognosis, and remaining life assessment
- Advanced fault control, reliable control, and safe control design
- System uncertainties and external disturbances attenuation control
- Real-time implementation of monitoring and diagnosis in practical applications

**Manuscript Preparation:**

Papers must contain original contributions and be prepared in accordance with TMECH standards. Instructions for authors are available online at: <http://www.ieee-asme-mechatronics.org>

**Manuscript Submission:**

Manuscripts should be submitted through the online submission service available at: <http://mc.manuscriptcentral.com/tmech-ieee>. The cover letter should report the following statement: “*Health Monitoring, Management and Control of Complex Mechatronic Systems*”. All manuscripts will be subjected to peer review process. If you have any question relating to this Focused Section, please email one of the Guest Editors.

**Important Dates:**

Paper Submission	September 15, 2016
Completion of First Review	December 15, 2016
Submission of Revised Papers	January 15, 2017
Completion of Final Review	March 01, 2017
Submission of Final Manuscripts and Copyright Forms	April 15, 2017
Publication	August, 2017

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