IEEE/ASME TRANSACTIONS ON MECHATRONICS

Call for Papers

Focused Section on

Reliability Design and Resilient Control for Intelligent Mechatronic Systems (RDRC-IMS)

Intelligent Mechatronic Systems (IMS), such as intelligent vehicles/robots/transportation systems, are generally complex due to the integrations of artificial intelligence and multidisciplinary features taken from mechanical engineering, electrical engineering, and control engineering. This integrated complexity leads to challenges in reliability modeling and reliability testing due to different and complex failure modes. To achieve reliability requirements, reliability design and resilient control are critical for the development of IMS. With the advances in information and network techniques, it is opportunistic to exploit them for the benefit of reliability design and the resilient control.

The main focus of this Focused Section will be on the new techniques in reliability modeling, reliability analysis, reliability design, fault and failure detection, signal processing, and resilient control of IMS. This Focused Section provides a platform to share most recent developments in the fields of reliability design and resilient control. Potential topics include, but are not limited to:

- Advanced reliability modeling and identification
- Intelligent decisions throughout lifecycle
- Failure analysis and prediction methods
- Fault diagnosis and fault tolerant control of IMS
- Health monitoring and supervisory control of IMS
- Risk analysis and management
- Architectural framework of reliability design
- Intelligent and remote fault detection
- Non-fragile and resilient control design
- Artificial intelligence application in IMS
- Design Optimization Using R&M Techniques
- Application studies.

Manuscript preparation

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

Manuscript submission

Manuscripts should be submitted online at: https://mc.manuscriptcentral.com/tmech-ieee. The cover letter should report the following statement: "*This paper is submitted for possible publication in the Focused Section on Reliability Design and Resilient Control for Intelligent Mechatronic Systems (RDRC-IMS)*". All manuscripts will be subjected to the regular TMECH peer review process. If you have any questions relating to this focused section, please email one of the Guest Editors.

Important dates

Paper submission:	February 15, 2019
Completion of first review:	May 15, 2019
Completion of final review:	August 15, 2019
Submission of final manuscripts and copyright forms:	September 1, 2019
Scheduled Publication:	October 2019

Guest Editors

HAMID REZA KARIMI, Politecnico di Milano, Italy, Email: hamidreza.karimi@polimi.it

HAIPING DU, University of Wollongong, Australia, Email: hdu@uow.edu.au

JING LIN, Beihang University, China, Email: linjing@buaa.edu.cn

XIANGRUI ZENG, Ford Motor Company, USA, Email: xzeng28@ford.com