Journal of the Franklin Institute

CALL FOR PAPERS

"Recent advances on control and diagnosis via process measurements"

The Theme: The recent increasing amounts of process measurements produced in various complex applications have demonstrated a "data driven" epoch of modern industrial processes. With the rapid developments of information science and technology, both the advanced data storage devices and the fast data transmission equipments have promoted the efficient processing of big data into realization. As a result, available process measurements can be applied to improving the effectiveness of current methodologies or practical techniques related to various subjects of modern industrial application research. Compared to the well-established model based techniques last few decades, the recent developments on control and diagnosis via available process measurements have received more attention both from academic and practical domains. The common object of data driven approaches is the effective utilization of considerable amounts of measured or stored data to achieve regular running and desired performance of modern industrial applications.

The primary objective of this Special Section is to provide an international forum for researchers and practitioners to exchange their latest achievements and to identify critical issues, challenges and emerging trends for future investigation of data based techniques. The papers to be published in the section are expected to provide recent advances of data-based approaches in new ideas or algorithms with modern industrial applications. The topic scope includes, but will not be limited to, the following research area.

- Modeling and key parameter identification for complicated systems
- Data based fault diagnosis and fault tolerant control
- Data based key performance prognosis
- Data based large plant wide optimization
- Data based reliability, security and risk management technologies
- Recent advances on filtering and control via process measurements
- Management and analysis of complicated systems via big data
- Benchmark study and industrial applications involving big data

Author's Schedule
Deadline of Manuscript Submission: December 31, 2015
Notification of Acceptance: May 01, 2016
Final Manuscript Due: May 31, 2016
Tentative Publication Date: July 31 2016

All submitted papers to this special issue will be peer-reviewed as the ones in the other issues of JFI. Their acceptances are subject to review suggestions. No length limitation for contributions is set, but only concisely written manuscripts are published. Manuscripts should be submitted electronically online at http://ees.elsevier.com/fi according to Guide for Authors of JFI. The corresponding author will have to create a user profile if one has not been established before at Elsevier. The authors should choose the paper type as this special issue. Simultaneously, please also send an electronic copy of their complete manuscript via email (PDF format preferred) to one of the Guest Editor(s) listed below.

Journal of the Franklin Institute

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Guest Editors

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Steven Ding received the Ph.D. degree in electrical engineering from the Gerhard-Mercator University of Duisburg, Germany, in 1992. From 1992 to 1994, he was an R&D Engineer at Rheinmetall GmbH. From 1995 to 2001, he was a Professor of control engineering at the University of Applied Science Lausitz in Senftenberg, Germany, and served as Vice President of this university during 1998–2000. Since 2001, he has been a Professor of control engineering and the head of the Institute for Automatic Control and Complex Systems (AKS) at the University of Duisburg-Essen, Germany. His research interests are model-based and data-driven fault diagnosis, system control, fault-tolerant systems and their application in industry with a focus on automotive systems, mechatronic and chemical processes

Reinaldo Palhares joined the Federal University of Minas Gerais (UFMG) in 2002 as an Associate Professor. He received his B. Eng. degree from Federal University of Goias, Brazil, in 1992. He completed his M.S. and Ph.D. in Electrical Engineering at University of Campinas, Brazil, in 1995 and 1998, respectively. After completing his Ph.D., Palhares held a position as an Associate Professor (1998-2002) at Pontifical Catholic University of Minas Gerais. At UFMG he had served as the Chair of The Electrical Engineering Graduate Program (2009-2013). Since 2014, Palhares has been serving as an Associate Editor for IEEE Transactions on Industrial Electronics. Since 2011 he is a member of the Editorial Board for Journal of Applied Mathematics and since 2013 he is a member of the Review Board for Artificial Intelligence. Broadly, Palhares' main research interests include robust linear/nonlinear control/filtering theory, fault detection and isolation with industrial applications, multi-objective optimization, and soft computing. Palhares has published over 75 peer reviewed papers in International Journals and over 95 Conference papers.