

**MECHATRONICS****Call for Papers****Focused Section on  
Mechatronics for Intelligent Manufacturing**

“Emerging economies, social and political transitions, and new ways of doing business are changing the world dramatically. ... To be successful in this competitive climate, manufacturing enterprises of 2020 will require significantly improved capabilities. ...” as highlighted in a U. S. National Research Council report Visionary Manufacturing Challenges for 2020. ASME has also chosen "Advanced Manufacturing" as the theme for its 2013 Congress. Similar governmental priorities on intelligent manufacturing (IM) can also be found in China, European Union and Japan. As an evolving term, IM is the use of production technology that automatically adapts to changing environments and varying process requirements, with the capability of manufacturing various products with less supervision and assistance from operators. Mechatronics, as synergistic integration of precision mechanical engineering with advanced sensing, control and computer theories and technologies in the design and manufacture of intelligent products and processes, plays an important role in this rapidly advancing IM. As new materials, new technology (such as intelligent communication, cloud computing) and new configurations for the manufacturing enterprise emerge, it is expected that the definitions of mechatronics and IM will become even broader in the future and the distinctions among mechatronics, manufacturing, and service industries become blurred. In an effort to disseminate current advances of various computational intelligence and mechatronics technologies for advanced manufacturing applications, a focused session in this area will be published in IEEE/ASME Transactions on Mechatronics (TMECH). Papers should contain both theoretical and practical/experimental results and will be subject to TMECH review procedures. Potential topics include but are not limited to:

- New Methods for Modelling, Design of System Components, Equipment and Processes
- Advanced 3D Printing and Emerging Manufacturing Processes
- Novel Sensors for Real-Time Measurement, Estimation and Physical-field Reconstruction
- Smart Actuators and Adaptive Control of Machine Tools
- Multisensor Fusion and Integration for Intelligent Manufacturing Systems
- Artificial Intelligence, Embedded Systems and Cloud Computing in Manufacturing
- Design, Analysis and Optimization of Mechanical Fixturing and Automated Handling Devices
- Surface Integrity of Difficult-to-Machine Materials, Thin-walled Structures, and/or Components with Complex Geometry
- Precision Machining

**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: “*This paper is submitted for possible publication in the focused section on Mechatronics for Intelligent Manufacturing*”. All manuscripts will be subjected to the peer review process. If you have any question relating to this Focused Section, please email one of the Guest Editors.

**Important dates:**

Paper Submission	April 1, 2014
Completion of First Review	July 1, 2014
Submission of Revised Papers	August 15, 2014
Completion of Final Review	October 1, 2014
Submission of Final Manuscripts and Copyright Forms	November 1, 2014
Publication	February 2015

**Guest Editors:**

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