

CALL FOR PAPERS



IEEE Transactions on Industrial Informatics

Special Section on:

“Information Technology in Automation”



Special Section Guest Editors

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Background: Automation systems are increasingly taking advantage of the opportunities afforded by information technology to offer new and original functions and solutions. The specific constraints of the automation domain on the other side lead to new requirements towards the dependability – especially safety and security – of the information technology used.

This Special Section on “Information Technology in Automation” is focused on the development, adoption and application of information technology for automation systems. Topics include, but are not limited to, the following research topics and technologies:

- IT Modeling techniques (UML, Object-Orientation, Agents, Service Oriented Architectures, ...) for automation systems
- Data Modeling (CAEX, AutomationML, OPC UA, ...)
- Virtualization at the factory level, digital factory
- Programming languages (IEC61131, IEC61499, ...)
- Integration with MES and ERP systems (Databases, Semantic Web Services)
- Web-based Setup, Maintenance and Configuration)
- Tool chains, platforms, and frameworks for Software Design and Development
- Security in factory, home and building Automation
- Network Integration in Automation Systems (heterogeneous networks, wired/wireless, ...)

The use of information technology also opens up new application areas for automation systems. Examples include but are not limited to:

- Smart Manufacturing, web-of-things in the factory line
- Home and Building Automation
- Assisted Living
- Smart Grids / Smart Metering

Papers discussing new application areas and the resulting new developments at the interface of information technology and automation are especially welcome.

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Extended versions of papers previously published in conference proceedings, digests or preprints may be eligible for consideration, provided that the authors inform the Special Section Guest Editors at the time of submission.

All contributions must focus on the use of information technology in automation. Results obtained by simulations must be validated in bounds by experiments or analytical results.

Manuscript preparation and submission: Follow the guidelines in “Information for Authors” in <http://iee-ies.org/tii/>
Submit using Manuscript Central
only <http://mc.manuscriptcentral.com/tii>

Paper submission deadline: February 28, 2010

Expected publication date: February 2012 (tentative)

Note: The recommended papers for the section are subject to final approval by the Editor in Chief. Some papers may be published outside the special section, at her/his discretion.