

## "Information Technology in Automation"

**The Theme:** Information technologies play crucial role in the current and future developments of industrial automation. There are numerous strategic agendas on future manufacturing that have appeared recently worldwide and all of them emphasizes the role of information technologies in automation in shaping up the future of production industries. This special section is devoted to the latest research results in this arena focusing on (but not limited to) the following topics:

- IT Modeling Techniques (e.g., Object-Orientation, Components, Agents, Services) for Automation Systems
- Model-driven Development and Model Based Engineering in Automation and Mechatronic Systems (e.g., UML, SysML)
- Data Modeling (e.g. CAEX, AutomationML, OPC UA, ISO 15926) along the Plant Life Cycle and according integration methods for engineering tools
- Domain Specific Modeling and Programming Languages (e.g. IEC 61131, IEC 61499)
- Knowledge-Based Systems, Ontologies and Semantic Web in Automation Systems
- IT Architecture techniques (e.g. Virtualization, Cloud computing, Big Data) in Automation Systems
- Vertical Integration, integration with MES and ERP Systems (Databases, Semantic Web Services)
- Engineering Methods for Distributed Automation Systems, Industrial Internet of Things and Cyber-Physical Systems
- Software Reuse, Software Product Lines, agile software development, and other software engineering methods in automation
- Simulation-driven engineering, virtual commissioning, model-checking, runtime verification and other advanced testing methods for control software and/or automation systems
- Dynamically Reconfigurable, Adaptive, and Emergent Automation Software/Systems
- Security and Safety in Factory, Energy, Home and Building Automation
- Interoperability solutions for Smart Manufacturing
- Real-Time platforms for automation
- Product Life-Cycle Management Systems
- Case Studies and Application Reports especially from:
  - Digital Factory, Smart Manufacturing, Web-of-Things in the Factory Line
  - Home and Building Automation
  - Renewable Energy Systems and Smart Grids (Production and Integration).
- Emerging topics in software and systems engineering in automation.

### Manuscript Preparation and Submission

Follow the guidelines in "Information for Authors" in the IEEE Transaction on Industrial Informatics <http://tii.ieee-ies.org/>  
Please submit your manuscript in electronic form through Manuscript Central web site: <http://mc.manuscriptcentral.com/tii>. On the submitting page #1 in popup menu of manuscript type, select: **SS on IT in Automation**

Submissions to this Special Section must represent original material that has been neither submitted to, nor published in, any other journal. Before submitting manuscript check the review criteria (<http://tii.ieee-ies.org/o/RC.pdf>). Regular manuscript length is 8 pages, additional 4 pages may be allowed for a fee.

**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 the EIC discretion.

### Timetable:

**Deadline for manuscript submissions**  
Expected publication date (tentative)

**March 31, 2017**  
**December 2017**

### Guest Editors:

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