

CALL FOR PAPERS

IEEE Transactions on Industrial Informatics

Special Section on:

“Control of Wireless Networks:
Foundations, Networking, Applications”



Special Section Guest Editors

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Background: Wireless technologies, nowadays a commodity in personal and data communication, have the potential of providing significant benefits in factory and industrial automation systems. The wireless way of communicating makes plant setup and modification easier, more flexible and cost-efficient. It provides a natural approach for communication with mobile machines and robots, where fixed cables are in constant danger of breaking. The industrial interest in wireless solutions is growing rapidly: standardization efforts such as Wireless HART and ISA 100 are underway, and hardware for embedded wireless is dropping in price. It is expected that wireless technologies will be integrated into distributed control systems on a broad scale. However, there are still open issues about reliability, performance, and data security of the wireless control loop that may limit the rate of adoption.

The goal of the special section is to attract theoretical and practical papers attacking the main issues and problems regarding the adoption of wireless technologies for networked control, ranging from theoretical foundations to the reporting of implementation experiences and applications.

Topics for the special section include, but are not limited to, the following:

- **Industrial wireless networking** for efficient, reliable and timely data transmission: low-layer (MAC/link/physical-layer) protocols and multi-hop (routing, transport) protocols
- **Theory and methodology** for reliable and robust wireless networked control
- **Novel solutions** for re-configurable, resilient and fault tolerant wireless control
- **Security** for industrial wireless systems
- **Middleware and higher-layer support** for wireless networked control systems
- **Hybrid wired/wireless networked control systems**
- **Experiences from industrial deployments** of wireless control
- **Innovative wireless networked control applications**

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

Manuscript preparation and submission: Follow the guidelines in “Information for Authors” in <http://ieee-ies.org/tii/>

Submit using Manuscript Central only
<http://mc.manuscriptcentral.com/tii>

Paper submission deadline: October 31, 2009

Expected publication date: November 2010 (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 his discretion.