

"Advances in Theories and Industrial Applications of Networked Control Systems"

The Theme: Networked control systems are presently commonly seen in a variety of industrial processes, such as telerobotics, smart grids, intelligent transportation systems, and even in medical, military and aerospace applications. Characterized by the components of a control system being spatially distributed and connected by networks, they offer great advantages, such as low cost, reduced weight and power requirements, simple installation and maintenance, and high reliability. However, the common shortcomings of the communication networks, such as transmission delays, packets drops and disorder, and data quantization are also unavoidably experienced in the loops of the networked system and a number of extensive studies have appeared in the literature to alleviate these network-induced problems. However more challenging problems such as network-based nonlinear control, remote sensing, multi-agent control warrant further in-depth investigations to enable wider and more successful applications.

The objective of this Special Section is to present the advances in the field of networked control systems to the Industrial Informatics audience. Both theoretical and application-oriented papers are sought for, addressing the issues of network-based control, sensing, multi-agent control systems, etc. Topics of interest include, but are not limited to:

- Modeling of network communication channels
- Multi-objective control with limited network communication capacity
- Network-based nonlinear control systems
- Remote sensing with networked media
- Fault detection and fault tolerant control in network environment
- Distributed sensor networks
- Cooperation control and networked multi-agent systems
- Network congestion control
- Simulation tools for networked control systems
- Industrial applications: industrial processes, transportation, telerobotics, smart grids, etc.

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 Networked Control Systems

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 may be eligible for consideration if conditions listed in <http://tii.ieee-ies.org/o/PC.pdf> are fulfilled. Before submitting manuscript check the review criteria (<http://tii.ieee-ies.org/o/RC.pdf>) and other information (<http://tii.ieee-ies.org/o/DI.pdf>)

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	June 30, 2011
	Expected publication date (tentative)	July 2012

Guest Editors:

Lixian Zhang, Harbin Institute of Technology, Harbin, China, tel: +86-0451-85957668, Fax: +86-0451-85957668, lixianzhang@hit.edu.cn

Huijun Gao, Harbin Institute of Technology, Harbin, China, tel: +86-0451-86402350, Fax: +86-451-86402351, hjgao@hit.edu.cn

Frank L. Lewis, The University of Texas at Arlington, Ft. Worth, Texas, USA, tel: +1-817-272-5972, Fax: +1-817-272-5952, lewis@uta.edu

Okyay Kaynak (Corresponding Guest Editor), Bogazici University, Bebek, Istanbul, Turkey, tel: +90-212-287 2475, Fax: +90-212-287 2465, okyay.kaynak@boun.edu.tr

Editor-in-Chief: **Bogdan M. Wilamowski**, <http://tii.ieee-ies.org/> eic.tii@gmail.com tel: +1-334-844-1629 fax: +1-334-844-1888
Director of Alabama Nano/Micro Science and Technology Center, Auburn University, 200 Broun Hall, AL 36849-5201, USA,