EBCCSP 2016

June 13-15, 2016
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Second International Conference on Event-based Control, Communications & Signal Processing

Call for Papers to Special Session SS05

Applications of Event-Based Approaches

Special Session Organizers:

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Aim and scope:
Most industrial control loops are implemented as computer-based controlled systems, which are governed by a periodic sampling time. The main reason for using this solution is because the sampled-data theory in computer-based control is well-established and is simple to implement. However, there are many situations in the real world where a periodic sampling time does not make sense. That is, it is not always necessary to check the process and to compute the control law continuously, since changes in real systems do not follow any periodic pattern. This is the case with biological systems, energy-based systems or networked systems. Those processes are characterized for being in an equilibrium state and changes come in a sporadic way because of, for instance, process disturbances, electrical stimulation, demand for energy, or requests via the network, respectively. For these processes, event-based control and event-based sampling are presented as an ideal solution, and for that reason they have become popular in the control community over the last few years. With these approaches, the samples, and thus the computation of the control law, are calculated in an aperiodic way, where the control strategy is now governed by events associated to relevant changes in the process.
The main advantages of event-based approaches are quite remarkable from a practical point of view. One of them is the reduction of resource utilization, for instance, actuator waste for mechanical or electromechanical systems. When the controller is event-triggered, the control actions will be applied to the process in an asynchronous way and only when it is really necessary. This fact is even more important if the communication is performed through computer networks, where the network structure is shared with other tasks being a common situation in many industrial systems.

Topics within the scope of the Special Session:
This special session will focus on:
- Event-based sampling
- Applications of event-based control systems
- Case studies involving event-based techniques
- Event-driven measurements & control
- Control strategies within event-based framework
- Industrial communication protocols for event-based process control and automation

Submission of Papers: The working language of the conference is English. The special session papers are limited to 8 double column pages in a font no smaller than 10-points. Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the Conference web site.

Further Information: EBCCSP 2016 Conference Secretariat: Tel: + 48 12 617 3034, Fax: + 48 12 633 2398; Email: ebccsp16@agh.edu.pl

Paper Acceptance: Each accepted paper must be presented at the conference by one of the authors. The final manuscript must be accompanied by a registration form and a registration fee payment proof. All conference attendees, including authors and session chairpersons, must pay the conference registration fee, and their travel expenses.

No-show Policy: The EBCCSP 2016 Organizing Committee reserves the right to exclude a paper from distribution after the conference at IEEE Xplore if the paper is not presented at the conference.

Author's Schedule:

Deadline for submission of special sessions papers:	March 20, 2016
Notification of acceptance of special sessions papers:	April 10, 2016
Final manuscripts due – special sessions:	May 1, 2016

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