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IEEE Industrial Electronics Society



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3rd Inter. Conf. on Event-based Control, Communication, & Signal Processing

Funchal, Madeira, Portugal May 24-26, 2017
Call for Paper to Special Session

Time-Mode Circuits and Signal Processing

Special Session Organizers:

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Aim and scope:

A continuous downscaling of semiconductor technologies has brought a reduction of the headroom for voltage swing, and at the same time a significant increase of resolution of circuits and systems in the time domain. In time-mode circuits, analog information is represented by the time difference between discrete events while the events are represented by standard digital pulses and thus the circuits are considered as essentially digital ones. However, they can combine both analog signal processing in the time domain and digital signal processing. Time-mode approaches have already found a broad spectrum of applications including biomedical and scientific instrumentation, high rate data transmission devices, as well as low power wireless sensor networks. Time-mode circuits and systems are still a domain of active research and the trend towards encoding signals in time, seen in the last decade, refers for example to develop new methods and techniques for all-digital phase-locked loops, RF synthesizers, continuous-time digital signal processing, and time-based analog-to-digital conversion. Due to important merits of time-mode circuits in comparison to voltage- or current-mode solutions, such as significant resistance to detrimental effect of technology scaling on their performance, decreased susceptibility to most interferences, lower power consumption and higher operation rate, the time-mode circuits seem to be very prospective.

Topics within the scope of the Special Session include but are not limited to:

- Time-mode signal processing theory
- Time encoding machines
- Continuous-time digital signal processing
- Recovery of signals from time encodings
- Time-to-digital and voltage to-time converters
- Time-mode analog-to-digital converters
- Time-mode phase-locked loops and frequency synthesizers
- Time-mode circuits for analog computation
- Time-mode delta-sigma converters
- Time-mode sensors
- Implementations and applications of time-mode circuits
- Design techniques of IC time-mode circuits

Submission of Papers: Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the Conference web site. Contributions must contain original unpublished work. Papers that have been concurrently submitted to other conferences or journals (double submissions) will be automatically rejected. Two types of submissions are solicited: Long Papers - 8 double-column pages. Work-in-Progress Papers - limited to 4 double-column pages. For further details, please consult the conference web pages.

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.

Conference Format: The conference will comprise multi-track sessions for regular papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations; work-in-progress (WIP) sessions; panel discussions on the state-of-the-art and emerging trends, involving leading experts from industry and academia; and public discussion sessions moderated by leading experts in the field of industrial automation systems.

No-show Policy: The EBCCSP2017 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:

Regular and special sessions papers

Proposals for special sessions due	January 29, 2017
Submission deadline	February 26, 2017
Acceptance notification	April 9, 2017
Deadline for final manuscripts	April 23, 2017

Work-in-progress papers

Submission deadline:	April 11, 2017
Acceptance notification:	April 18, 2017
Deadline for final manuscripts:	April 23, 2017

<http://www.ebccsp2017.org>