

IEEE International Conference on Event-based Control, Communications & Signal Processing

EBCCSP 2015

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KRAKÓW

Call for Papers to Special Session SS05

Mathematical Modeling of Event-Based Sampling

Special Session Organizer:

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Keynote Presentations

Panos Antsaklis
University of Notre Dame, USA
Karl Henrik Johansson
KTH Royal Institute of
Technology, Sweden
Yannis Tsividis
Columbia University, USA

Plenary Presentations

Tobi Delbrück
ETH Zurich, Switzerland
Maurice Heemels
Eindhoven University of
Technology, The Netherlands
Jan Lunze
Ruhr-University Bochum, Germany

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University of Almería, Spain

Aim and scope:

This Special Session is about the mathematical foundation of non-linear sampling processes that are triggered by signal based conditions. Examples for such sampling schemes are level-crossing sampling with hysteresis, send-on-delta or integrate-and-fire. In particular, challenges for event-based sampling theory posed by its applications in computational neuroscience and (biomorphic) engineering are addressed.

For example, consider level-crossing sampling with hysteresis, then small variations of the threshold can turn a sub-threshold signal with no events into a sequence with an arbitrary number of alternating +1, -1 events. Is this really instability? Or, rather, does this phenomenon tell us that the underlying metric of our notion of stability is not adequate? This example illustratively demonstrates the necessity to challenge fundamental notions like 'stability' and their underlying mathematical concepts in order to clarify the appropriateness of proposed concepts in this field. For this purpose, particularly, discrete mathematical, analytical, stochastic and information theoretical contributions are welcome that address the analysis of shortcomings of state-of-the-art theory of event-based sampling or tackle these shortcomings by novel approaches.

Topics within the scope of the Special Session:

Suggested topics of interest include (but are not restricted to) the following:

- Event-based sampling operators and event sequences
- Stability analysis of event-based sampling
- Metric spaces and metric equivalence
- Stochastic resonance
- Measures of information

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 2015 Conference Secretariat: Tel: + 48 12 617 3034, Fax: + 48 12 633 2398; Email: ebccsp15@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 2015 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:

<i>Deadline for submission of special sessions papers:</i>	January 15, 2015
<i>Notification of acceptance of special sessions papers:</i>	March 15, 2015
<i>Final manuscripts due – special sessions:</i>	May 1, 2015

<http://www.ebccsp2015.org>

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