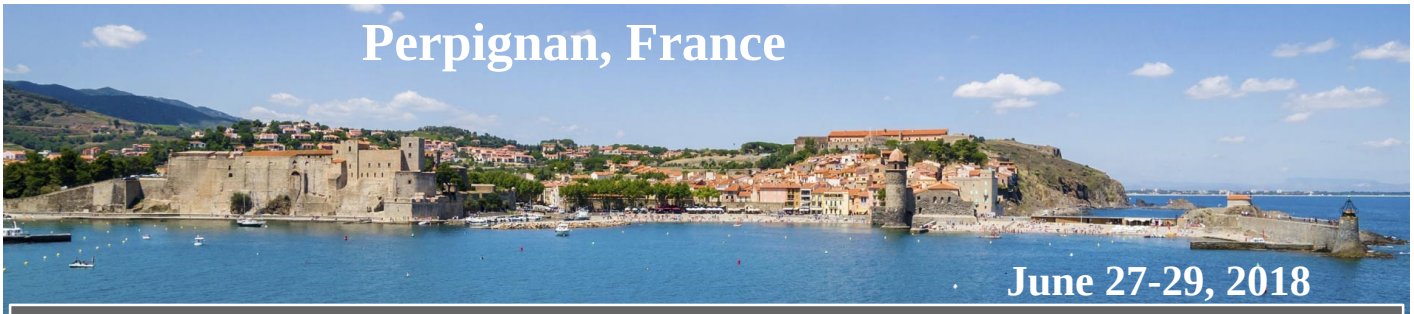

4th International Conference on Event-based Control, Communication, & Signal Processing EBCCSP 2018

EBCCSP 2018

Call for Papers

Special Session on

Uncertainties, Sensitivities, and Models in the transformation towards Smart Grids

Special Session Organizers:

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The concerns about greenhouse-gas emissions and scarcity of fossil fuels reserves have led to a dramatic increase of Renewable Energy Sources (RES, for example wind and solar power) penetration in electric power systems. This created new challenges associated with the *variability and uncertainty* of these sources. Though natural events are a main source at the generation side, there are many other sources acting on the demand side (charging EVs, market aspects, services, failures, and so on). Handling these aspects is important in warranting the security of energy supply that includes regulatory/policy, technological, interoperability, and computational aspects. High utilization of the Distributed Generation from RES can cause unexpected challenges in Smart Grid developments. High penetration of RES has changed the way that powers systems are operated. The *transition to the generation-led approach* requires rethinking the role of the measurements, control, state estimation, market and other behavioral aspects of energy actors. Neglecting the influence of the uncertainty can affect the total operation schedule such that the final optimal solution may not be the best operating point in the reality. Additionally, Smart Grid is a complex system-of-systems that might include parts *operating under time- and event- driven approaches*. This subject area challenges design of real life control systems, early-warning & response real life systems, interoperability between products already on the market, the role of interoperability (including methodological and practical aspects) as a condition for deploying open systems-of-systems, interplay between event- and time- based control approaches, and much more.

In the current climate change scenario, *policy-controlled transformation* from power systems alimented by traditional energy sources to lowered-inertia renewable energy sources, it needs to be controlled and verified in order to reduce the risk of unwanted unforeseen effects.

Because of the above-mentioned issues, this special session of the EBCCSP 2018 is to bring together researchers and practitioners from a wide spectrum of disciplines including uncertainty- and sensitivity- analysis, electric engineering and ICT (Smart Grid), control, communication, signal processing, and electronic instrumentation dealing with the event-based control of renewable energy flows, and the climatic and energy policy aspects associated with the transition to high percentage renewable energy low -inertia scenario.

Researchers, domain experts, policy actors, and practitioners working on such topics are kindly invited to attend this session by submitting their recent work ranging in any direction. We will consider papers on policy aspects, market-related work, modeling work, uncertainty- and sensitivity- analysis work, and more.

Typical questions in this context are many. Since additional issues might come from the composition of parts in a – more or less "composable" - system-of-system, *any relevant contribution, including work-in-progress*, is welcome.

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

- Policy aspects, policy-controlled transition towards generation-led scenario in Smart Grid
- Socio-economic aspects, linkage of and convergence between energy markets
- Technical aspects, incl. Transactive Control, Anticipatory Control, and more

- Computational aspects, use of Multi-Agent Systems in Smart Grid operations
- Uncertainty quantification and Analysis
- Sensitivity Analysis and Audit
- Model-based and Model-free developments
- Measures, (composite) Indicators, and their use
- Stability aspects and Analysis
- … and any other relevant work is welcome

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. Papers are to be submitted electronically in PDF format. 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-oft-he-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.

Author's Schedule:

Regular and special sessions papers		**Work-in-progress papers**	
Submission deadline	March 18, 2018	*Submission deadline*	March 25, 2018
Acceptance notification	April 30, 2018	*Acceptance notification*	April 30, 2018
Deadline for final manuscripts	May 20, 2018	*Deadline for final manuscripts*	May 20, 2018

http://www.ebccsp2018.org