13th International Workshop on Discrete Event Systems (WODES 2016)

Special Session on

Control, Observation, Estimation, and Diagnosis with Timed Petri Nets

Xi'an, China, 30 May - 1 June 2016

Brief Description of Special Session:

The modeling, analysis, and control of discrete event systems (DESs) are important issues to improve the performance of such systems. DESs are mainly event-driven systems and their state evolution depends on the occurrences of discrete events. Nevertheless time should be considered in numerous applications to describe the system specifications. Timed Petri net is a popular tool to represent such temporal constraints. Timed Petri nets provide efficient analysis methods, based on estimation and observation for performance evaluation and diagnosis issues. Timed Petri nets also lead to efficient control design methods including supervisory control, deadlock-free scheduling control, model predictive control and many others that are supported by DESs. The aim of this special session is to present recent methodological results with Timed Petri nets. The related work can be the modeling, analysis, and control of DESs. A particular interest concerns integrated tools that cover several issues. Prospective authors are welcome to submit their original papers with the latest contributions. This session will provide an opportunity to facilitate interactions among researchers in those fields.

The invited session includes the following topics but not restricted to:

- Analysis and control of DESs with timed Petri nets
- State estimation and observation with timed Petri nets
- Fault diagnosis and prognosis with timed Petri nets
- Deadlock-free scheduling control with timed Petri nets
- Optimal and model predictive control with timed Petri nets
- Models and abstractions for timed Petri net systems

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Contributions

Please contact **Francesco Basile** (Email: fbasile@unisa.it) or **Dimitri Lefebvre** (Email: dimitri.lefebvre@univ-lehavre.fr) as soon as possible if you would like to contribute a paper to this Special Session. Please include in your e-mail: names, affiliations, contact addresses of the contributing authors; and a tentative title of your paper. Special sessions papers will follow the reviewing process of regular papers (see http://wodes2016.diee.unica.it/callforpaper.html).