CALL FOR PAPERS
SPECIAL SESSION ON
"Graphical Modelling Methods for Dynamical Systems Analysis"
for CODIT'17
April 5-7, 2017 – Barcelona, Spain

Session Chairs :
Prof. Belkacem Ould-Bouamama,, *University of Lille 1, France*

Session description

A review of the literature suggests a large spectrum of graphical modelling approaches (**digraph, linear graphs, bi-partite graphs, causal graphs, bond graph, Systems of Systems…**) for control, diagnosis analysis even reconfigurability continuous and hybrid systems. All these properties are analyzed in an independent manner with specific models. In spite of their simplicity, graphical models provide many useful information, since they are able with any need of numerical calculation to : (i)Provide a control analysis in terms of observability and controllability, flattening ability, (ii) propose a sensor placement to make the system observable and/ or controllable, (iii) identify the systems' components which are - or are not – monitorable, (iv) provide design approaches for analytic redundancy based residuals, (v) suggest alarm filtering strategies, and to identify those components whose failure can - or cannot - be tolerated through reconfiguration, (vi) Furthermore graphical models are well suited for informatics implementation and software development.

Objective of the session…How to elaborate such models (structural, bond graph, causal graph, digraph,), how to develop the diagnosis and control algorithms from those representations, what are the links and differences between these models, what are the limits and the complementarities of each method,…?. **Such are the questions we want to contribute and discuss during this session from an industrial and theoretical point of view**

The topics of interest include, but are not limited to:

- Graphical models (Bond Graph, digraph, bipartite graph, causal graph, .) for control, diagnosis, sizing …
- theory, structural analysis theory
- Software development for automated modelling control FDI, FTC…

SUBMISSION
Please submit your full paper choosing the right Special Session (**08-Special Session: Graphical Modelling Methods for Dynamical Systems analysis**) on the EasyChair for CoDIT'17 website:
https://easychair.org/conferences/?conf=codit17
All papers must be written in English and should describe original work. The length of the paper is limited to a maximum of 6 pages (in the standard IEEE conference double column format).

IIMPORTANT DATES
December 4, 2016: deadline for paper submission

February 2, 2017: notification of acceptance/reject

February 26, 2017: deadline for final paper and registration.