IEEE Vehicle Power and Propulsion Conference

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http://www.vppc2014.org/

Special Session on
ENERGETIC MACROSCOPIC REPRESENTATION AND OTHER GRAPHICAL DESCRIPTIONS

Organized within the framework of MEGEVH

Chairman: Pr Pierre SICARD, Université du Québec à Trois-Rivières (Canada)
pierre.sicard@uqtr.ca
Co-chair: Dr Tony LETROUVE, University Lille1 (France)
tony.letrouve@univ-lille1.fr

Call for Papers

One of the key issues in the development of Electric Vehicles (EVs) and Hybrid Electric Vehicles (HEVs) is the control design of such complex systems, which are composed of multi-sources and multi-subsystems. Model-based control design approaches provide an efficient mean to tackle the design challenges, such as reducing development time and handling growing design complexity. The general steps in model-based control design process are: system modeling, control analysis and tuning, system and control simulation, emulation and experimental validation, and finally control deployment.

At the system modeling step, different graphical modeling formalisms can be used, such as Bond Graph, Power Oriented Graph (POG), Causal Ordering Graph (COG) and Energetic Macroscopic Representation (EMR). These graphical formalisms highlight different properties of multi-physical systems. As an energy-based graphical tool, EMR respects integral causality and highlights energy properties of the power components such as energy storage, energy conversion and energy distribution. Finally, EMR provides a global energetic view of systems. Due to these features, inversion-based control can be deduced from EMR (http://www.emrwebsite.org/).

The aim of this special session is to present different graphical descriptions, including EMR, applied to HEVs or/and EVs to solve complex design and control problems.

Topics of interest include, but are not limited to:

- Graphical tools for modeling,
- Graphical tools for control design,
- Graphical toolbox or software for study and/or control of electrical or/and hybrid vehicles,
- Graphical interface for simulation of electrical or/and hybrid vehicles,
- Application of graphical tools for control/identification/emulation of EV/HEV systems.

Deadlines:

Submission of abstracts:	**April 15, 2014**
Notice of acceptance:	**May 18, 2014**
Submission of full papers:	**July 1st, 2014**
Deadline for registration:	**August 31, 2014**

All the instructions for abstracts are included in the conference website http://www.vppc2014.org/:
- special Session title, paper title, authors, affiliation(s), mailing and e-mail address(es),
- corresponding author clearly identified,
- abstract of 100-300 words and a digest of 3-5 pages.