VPPC 2020
Connecting Green e-Motion
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Special Session: Multi-level Models for Simulation of Electrified Vehicle

Co-Chair: Dr. Ronan GERMAN, Univ of Lille (France)
ronan.german@univ-lille.fr
Co-chair: Dr. Calin HUSAR, Siemens Industry Software (Romania)
calin.husar@siemens.com
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Call for Papers

The development of innovative electrified vehicles is a key step before building their prototypes. However, various components have to be designed and integrated into subsystems or in the global system. In that aims, for the same component different levels of the model are required from the most detailed and accurate to the most simple and global. In some new simulation packages, the level of the component model can be selected in function of the study objective.

For example, the H2020 PANDA project aims to develop a unified modeling approach in order to couple different models for simulation and testing innovative concepts of electrified vehicles. All components will be developed with different model levels to enable flexibility.

This special session is focused on the development of multi-level models of components and/or subsystems of electrified vehicles to be integrated into the simulation. The applications could be the sizing, analysis, control, energy management, thermal strategy, performance determination of the studied vehicle. The interest of using multi-level models should be highlighted. The comparison of the different models for a defined objective could be also of interest. This special session is open both, to the members of the PANDA and to other contributors. A half of papers, external to the PANDA project will be appreciated, in order to share various experiences

Topics of interest include, but are not limited to:

- Multi-level simulation and modeling of battery electric vehicle, hybrid vehicles or fuel-cell vehicles, etc,
- multi-level simulation of cars, truck, buses, subways or trains, etc,
- multi-level models of energy storage subsystems, electric drives, power converters or control units, etc.

Applications of interest:

This special session will try to activate the networking within the transportation modelling community inside the VPPC conference in particular and also at IEEE VTS level.

All special session digests must be prepared and submitted in the same way as those for the conference regular tracks, except that the corresponding special session should be identified during submission.

Submission Deadline: **15 April 2020**
Acceptance notification: **30 June 2020**
Final paper submission deadline: 13 July 2020

SS organizers' short bio:

Dr. Ronan German was born in Roanne, France, in 1986. He received the master degree in electrical engineering at national institute of applied sciences of Lyon, France in 2009. From 2010 to 2013 he was a Ph.D. student from Lyon1 university under a joint supervision with Bordeaux 1 University. From 2013 to 2015 he made two years as an assistant professor at the University of Lyon. Since September 2015 he became an associate professor at the university of Lille in the Laboratory of Electrical Engineering and Power electronics (L2EP). His current research interests include management of energy storage systems in the context of electric vehicles as a function of various parameters.

Dr. Calin Husar is a Romanian research engineer who received his MSc. and PhD degree in Mechanical Engineering at “Transilvania” University from Brasov.
During his MSc. and PhD studies he was with the Erasmus program at University of Poitiers and had a Marie Curie scholarship at INSA Lyon.
After working a year and a half for Renault Technologie Roumanie, from more than 11 years he started working at Siemens Industry Software Romania. Currently is involved in two European research projects and his research interests include electric and hybrid vehicles, structural and NVH analysis.