

Special Session on

INNOVATIVE EFFICIENT SYSTEMS FOR FUTURE RAILWAYS APPLICATIONS

Chair: Dr. Clément MAYET, Univ. of Lille, MEGEVH network (France), Vrije Univ. Brussel (Belgium)
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Call for Papers

Railway transportation is known as being a sustainable mode of transport. However, the environmental issues and the growing number of passengers conduct to continuously improve the transportation systems and their capacities. It leads to face several challenges, such as supply network voltage stability, energy efficiency, system design, etc. Innovative solutions are thus developed to ensure safety despite the increase in traffic, improve the quality of transport, respect the environment with significant technological improvements around energy efficiency, energy management, reduction of noise pollution, eco-design, etc.

To assess the interest of such developments, dedicated power flow techniques and other kind of steady or transient simulations or methodologies can be needed to study a part of or the entire railway system (vehicle and supply network).

The aim of this special session is to present different innovative solutions to solve complex design, control, and energy management problems, as well as, specific modelling and simulation approaches of railway systems (trains, tramways, subways, etc.).

Topics of interest include, but are not limited to:

- Trains, tramways, subways, etc.,
- On-board and wayside energy storage systems (supercapacitor, flywheel, etc.),
- Hybrid electric propulsion system design,
- Energy management and energy recovery,
- Reversible and non-reversible (diode-based) traction power substations,
- Supply railway network
- Power flow simulation of complete railway system

Deadlines:

Submission of abstracts: Mar. 31, 2017
Notice of acceptance: June 15, 2017
Submission of full papers: Sep. 15, 2017

All special session digests must be prepared and submitted in the same way as those for the conference regular tracks (see <http://www.vppc2017.org/>), except that the corresponding special session should be identified during submission.



Clément Mayet received the M.S. degree and the Ph.D degree in electrical engineering from the University of Lille, France, respectively in 2012 and 2016. During his Ph.D. degree, he worked with Siemens on the development of an energetic simulation tool for the subway systems. Then he held a post-doctoral position at the Laboratory of Electrical Engineering and Power Electronics of Lille (L2EP), France, where he studied different transmission systems for medium-duty hybrid trucks. He is currently working as senior researcher and project manager at the MOBI research group at the Vrije Universiteit Brussel, Belgium. His research interests include modeling, control, energy management and Hardware-In-the-Loop simulation of electric and hybrid vehicles.



Pablo Arboleya (SM'13) received the M.Sc. and Ph.D. (with distinction) degrees from the University of Oviedo, Gijón, Spain, in 2001 and 2005, respectively, both in Electrical Engineering.

Nowadays, he is the holder of the Gijón Smart Cities Chair at the University of Oviedo and responsible of LEMUR research group railway and transportation section.

Presently his main research interests are focused in distribution systems modelling and operation techniques, railway traction networks simulation and combined AC/DC power flow algorithms and the application of Big data techniques to power systems analysis and operation.