

Energy Management Strategy Design for Fuel Cell Hybrid Electric Vehicles

SPEAKERS

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ABSTRACT

In this short course, the development of energy management strategy for hybrid electric vehicle, particularly fuel cell hybrid electric vehicles, will be talked about in the following aspects:

- Introduction of fuel cell hybrid electric vehicles
- Modelling of powertrain components
- Energy management problem formulation and method classification
- Rule based energy management strategies
- Optimal control based energy management strategies
- Learning based energy management strategies
- Case studies and Open-access tools

About The Speakers:

Zhongliang Li:

Zhongliang Li received his Bachelor's and Master's degrees in Electrical Engineering from Tsinghua University, Beijing, China, in 2009 and 2011, respectively. He obtained his Ph.D. degree in Automation from the University of Aix-Marseille, Marseille, France, in September 2014. From 2014 to 2016, he worked as a Postdoctoral Research Associate with Labs FEMTO-ST (UMR CNRS 6174) and FCLAB (CNRS 3539), Belfort, France. From 2016 to 2022, he was an Associate Professor with Lab LIS (UMR CNRS 7020), Aix-Marseille University. Since 2022, he has been a junior professor chair at the University of Franche-Comté.

Alexandre Ravey:

Alexandre Ravey (Member, IEEE) received the M.Sc. and Ph.D. degrees in electrical engineering from the University of Technology of BelfortMontbeliard, Belfort, France, in 2009 and 2012, respectively. During his Ph.D. degree, he studied sizing and energy management of electric and hybrid electric vehicle based on fuel cell. Since 2013, he is an Associate Professor with the University of Technology of Belfort-Montbeliard. His current research interests include energy management in plug-in hybrid electric vehicle, fault diagnosis in hybrid powertrain, including fuel cell, prediction algorithm implementation for electric vehicle, and vehicle to grid control applied to solar charging station. He is the coauthor of more than 70 papers published in international journals and conference proceedings. He is also a member of IES, VTS, and IAS Society within IEEE.

