
Editorial

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Biographical notes: Xiaolin Tang received BS in Mechanics Engineering and an MS in Vehicle Engineering from Chongqing University, China, in 2006 and 2009, respectively. He received a PhD in Mechanical Engineering from Shanghai Jiao Tong University, China, in 2015. He is currently an Associate Professor at the Department of Automotive Engineering, Chongqing University, Chongqing, China. His research focuses on hybrid electric vehicles (HEVs), vehicle dynamics, energy management, and autonomous vehicle.

Chuan Hu is currently a Postdoctoral Fellow at Department of Mechanical Engineering, University of Texas at Austin, Austin, USA, and previously he was a Postdoctoral Fellow in the Department of Systems Design Engineering, University of Waterloo, Waterloo, Canada from July 2017 to July 2018. He received the BE in Vehicle Engineering from Tsinghua University, Beijing, China, in 2010, the ME in Vehicle Operation Engineering from the China Academy of Railway Sciences, Beijing, in 2013, and a PhD in Mechanical Engineering, McMaster University, Hamilton, Canada in June 2017. His research interest includes path planning, motion control and estimation of autonomous vehicles, vehicle system dynamics and control, robust and adaptive control.

Yanjun Huang is a Postdoctoral Fellow at the Department of Mechanical and Mechatronics Engineering at University of Waterloo, where he received his PhD in 2016. His research interest is mainly on the vehicle holistic control in terms of safety, energy-saving, and intelligence, including vehicle dynamics and control, HEV/EV optimisation and control, motion planning and control of connected and autonomous vehicles, human-machine cooperative driving.

Ye Chen Qin is an Associate Professor in Beijing Institute of Technology, Beijing, China. He received his BE and PhD in 2010 and 2016 from Beijing Institute of Technology, where he was a Postdoc Fellow from 2016 to 2018. From 2013 to 2014, he studied at Texas A&M University, US, as a visiting PhD student. From 2017 to 2018, he studied at University of Waterloo as a visiting scholar. He was also a Post-Doctoral Research Fellow with University of Waterloo, Waterloo, ON, Canada. His research always focuses on advanced vehicle dynamics control, road estimation, and ADAS.

Energy saving has always been a hot research topic in automotive area. Recently, many studies have been conducted to improve the vehicle energy-saving performance in both of component and system level by using redesign and/or control techniques. For example, electrified vehicles such as the hybrid electric vehicles (HEVs) and electric vehicles (EVs) can enhance energy efficiency by redesigning the conventional powertrain into a hybrid or full electric one. Moreover, to further improve energy-saving performance, other measures also need to be taken, such as configuration design, component optimisation, integrated control of electrified powertrain, battery management strategies, smarting charging, and V2X communication technologies. These technologies require optimal design, signal processing, online optimisation, and control of the vehicle.

The objective of this special issue is to solicit recent advancements in vehicles to enhance the performance in terms of energy efficiency. This issue includes eight papers focused on

- Research on regenerative braking strategies for hybrid electric vehicle by co-simulation model
- A new model predictive torque control strategy for permanent magnet synchronous hub motor of EVs
- Study on comprehensive performance of Ni-MH power battery used in HEV at different temperatures
- Potential and challenges to improve vehicle energy efficiency via V2X: literature review
- The effect of peppermint odour on fatigue and vigilance in conditional automated vehicle
- Research on modelling and simulation of single-mode power split hybrid system
- Energy management optimal strategy of FCHEV based on the Radau Pseudospectral Method
- Control strategy of genetic algorithm for a hybrid electric container loader.

I believe that these papers will offer valuable references for readers in the field of vehicle energy-saving. I would like to thank the authors for their contributions and the reviewers for their invaluable time and efforts.