Editorial Preface for Special Section on Thermal Management

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Automotive thermal management technology is critical for achieving higher thermal efficiency, longer component life, better driving stability and comfort of vehicles. With the continuous advances of new energy vehicles (NEVs), the rational design and development of thermal management systems for NEVs become a new challenge for automakers.

With the emergence of novel materials, advanced processes and intelligent control technologies, automotive thermal management systems will be more diversified, efficient, cost-effective and intelligent. Aiming at technical promotion of vehicle thermal management systems, a special section on thermal management is proposed. Thanks for the 16th UK Heat Transfer Conference, which allows some of the authors rewrite the papers and publish on this special section.

The papers, as listed below, cover the topics of innovative thermal management solutions for electrified power train [1], e-motors [1], power batteries [2, 4], IGBTs or invertors [1, 3], and air-conditioning systems [5], also include two papers relating to the technology and methods of efficiency improvement of gas vehicle [6, 7].

- Thermal management of electrified propulsion system for low-carbon vehicles [1].
- Thermal performance of a micro heat pipe array for battery thermal management under special vehicle-operating conditions [2].

- Thermal analyses of power electronics integrated with vapour chamber cooling [3].
- Thermal management optimization of a lithium-ion battery module with graphite sheet fins and liquid cold plate [4].
- Simulation and analysis of dual-evaporator refrigeration system for electric vehicles [5].
- Micro gas turbine range extender performance analysis using varying intake temperature [6].
- Distributed gas ignition (DGI) using injection strategy for high efficiency and clean combustion under lean condition [7].

The publication of this special section would not be achieved without the meticulous work and joint efforts of all the authors, reviewers and editors. We would like to thank all authors, reviewers and the staff from the editorial office of *Automotive Innovation* for their hard work and support. Heartly hope this special section can inspire scientific ideas and promote research in the fields of automotive thermal management.

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Dr. Liang Guo is a Professor and the Assistant to Dean at the Automotive College of the Jilin University. His research interests include fuel design and combustion optimization of internal combustion engine, process of heat and mass transfer in power machines. He graduated from the University of Nottingham in 2011 with a doctoral degree in Power Engineering, and was a postdoc fellow at the Faculty of Engineering in the University of Nottingham and the Rolls-Royce University Technology Centre in

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