Editorial

Nong Zhang

Automotive Research Institute,
Hefei Unversity of Technology,
193 Tunxi Road, Hefei, Anhui, 230009, China
Email: nong_zhang@hfut.edu.cn

Biographical notes: Nong Zhang received his Bachelor's in Northeastern University, China (1978–1982), Master's in Shanghai Jiao Tong University, China (1982–1984), and PhD in Mechatronic Engineering, Harbin Institute of Technology (1995–1999) and studied in the University of Tokyo, Japan (1984–1989) and. He is a Professor of Mechanical Engineering, at School of Mechanical and Mechatronic Engineering (2009–2020) and Professor of Automotive Research Institute, Hefei University of Technology, China (2016–present). For more than 30 years, he has been involved in teaching and research in areas of dynamics and control of automotive systems including vehicle powertrains with various types of transmissions, hybrid propulsion systems, vehicle dynamics, passive and active suspensions; range extended systems for EVs; and mechanical vibration including experimental modal analysis, rotor dynamics, cold rolling mill chatter and machine condition monitoring.

Today, automation and electrification are two key enabling technologies to spur numerous technology innovations for the vehicle development. Vehicle powertrain as well as electric propulsion is the core research field to promote green energy for vehicle applications. The technology must be clean, green, and environment-friendly for sustainability. Powertrain automation and electrification continue to be a growing trend for all ground vehicles beyond the automotive industry to meet the demanding challenges of fuel efficiency, emission regulation, and decarbonisation.

For this special issue, selected papers from the 2019 International Conference on Advanced Vehicle Powertrains (ICAVP 2019) are invited and their extended versions are finally accepted. ICAVP 2019 was held at Hefei University of Technology (HFUT), China, on August 25–27, 2019. The purpose of this conference is to deepen and facilitate the communications and development of advanced vehicle powertrains. About 60 experts and scholars from all over the world attended ICAVP 2019, providing four keynote speeches and six technical sessions with 26 technical papers. Four keynotes were presented by Professor Giorgio Rizzoni (Ohio State University, USA), Professor Peter Tenberge (Ruhr-Universität Bochum, Germany), Dr. William Cai (Founder and CTO, Jing-Jin Electric, China), and Professor Nong Zhang (Hefei University of Technology, China).

Within the broad range of research and development of powertrain automation and electrification, all accepted papers present recent explorations of powertrain automation and electrification from both academia and industry. These researches are deeply involved in advanced engines, transmissions/drivelines, energy management strategies for multi-modes of propulsion, and innovative energy-efficient electrification technologies.