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Name	Rui Xiong	
Affiliation	Beijing Institute of Technology	
<h2>Invited Keynote Lecture</h2>		
Presentation Title	AI accelerates the development of a new generation of battery management systems	
Abstract (Approximately 200 words)	Effective management of lithium-ion batteries is a key enabler for a low carbon future, with applications including electric vehicles and grid scale energy storage. The lifetime of these devices depends greatly on the materials used, the system design and the operating conditions. This complexity has therefore made real-world control of battery systems challenging. This invited talk will focus on: (1) Analysis of new energy vehicle safety accidents and summary of causes in the past 10 years, (2) Analysis of the aging mechanism of lithium-ion batteries and battery performance degradation characteristics, (3) Multi-dimensional parameter characterization system of power battery aging and its observation, expression and modeling methods, (4) The application of artificial intelligence in the life prediction of battery system, (5) the challenge of rapid prediction and evaluation of the remaining life of battery, and emerging techniques and perspective comments provided towards more intelligent and interconnected battery management in the future.	
Biographical Sketch (Approximately 200 words)	Rui Xiong received his M.Sc. degree in vehicle engineering and Ph.D. degree in mechanical engineering from Beijing Institute of Technology, Beijing, China, in 2010 and 2014, respectively. He is a Professor at the Beijing Institute of Technology, Beijing, China. From 2019 to 2020, he was a Visiting Professor at the Massachusetts Institute of Technology, Cambridge, MA, USA. He has authored more than 100 journal papers, 4 monographs and holds more than 30 patents. His research interests include Intelligent electrified vehicles, energy storage, batteries, digital twin, and machine learning. Dr. Xiong is an IET Fellow. He has been continuously selected as the HIGHLY CITED RESEARCHER from Clarivate Analytics from 2018 to 2020. He was a recipient of the First Prize of Natural Science Award of the Ministry of Education of China in 2018. He serves as the Chairman of the Battery System Subcommittee at IEEE PES Electric Vehicle Satellite Committee-China. He serves as Associate Editors for the IEEE Transactions on Intelligent Transportation System, IET Power Electronics, IET Intelligent Transport Systems, and on the Editorial Board for the Applied Energy and Electrical Engineering. He is also the Chairman of five international conferences in the field of electric vehicles.	