Preface

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Wei Liu is currently a Distinguished Professor at Qingdao University. He is also a Fellow of the Royal Society of Arts (RSA). His current research centres on international business, corporate strategy, and regional studies in emerging economies and the Chinese context. He has published numerous peer-reviewed articles. He has also presented papers at top-tier international conferences.

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Lianyong Qi received his PhD degree in Department of Computer Science and Technology from Nanjing University, China, in 2011. In 2010, he visited the Department of Information and Communication Technology, Swinburne University of Technology, Australia. Now, he is a Full Professor of the School of Information Science and Engineering, Qufu Normal University, China. His research interests include big data and privacy-preservation. He has published over 40 research papers (first author or corresponding author) in international journals (e.g., *JSAC*, *TCC*, *TBD*, *TCSS*, *INS*, *JCSS*, *FGCS*, *JNCA*) and international conferences (e.g., *ICWS*, *ICSOC*, *CSCWD*, *HPCC*, *TrustCom*, *CollaborateCom*). He also serves as the leading guest editor of *Journal of Organizational and End User Computing* and *EURASIP Journal on Wireless*

Communications and Networking, and guest editors of several journals including *Security and Communication Networks*, *International Journal of Distributed Sensor Networks*. He has won the best paper awards of international conferences *SpaCCS'2017* and *CSS'2017*.

Globalisation has unbalanced the relationship between industrial development and environmental protection. Also, tension between the rapid pace of technology innovation and electronic waste has unfolded, arousing comprehensive scholarly attention, empirical study and theoretical insights. Within this genre, this special issue is proposed to provide a fitting depiction of current research on waste management and environmental sustainability in contextually divergent fields.

From macroscopic aspects, rethinking on the relationship between high-technology industry and environmental development has been presented in the study by Xia and Li and Wan. In Xia and Li's research, considering the environmental sustainability as Chinese national policy, the significance of the index system has been discussed. This has provided theoretical framework for the development of ecological city project in China. This study also analysed advantages and resistance of urban ecological construction by taking Shenzhen as an example. Unlike Xia and Li's insights on particular index system, Wan revealed a more macroscopic scale of picture integrating industry, city and economic development. By evaluating the degree of product-city integration in Jiangxi Province in China, Wan's study has concluded with the identification result of grey relational degree analysis. In addition, Shang and Chen have provided an alternative lens of enterprise environmental management, elaborating business cost path from environmental perspectives. The data and result in Shang and Chen's investigation has reveal an outlook of improvement beyond current enterprise/'s R&D design, product production and management, waste recycling, sales, etc.

Scholars also explored the evaluation method under this issue. Mao put forward an evaluation method of green competitiveness for industrial enterprises incorporating both principles of evaluation indices and corresponding indices system. Innovatively, democratic characteristics of decision-making are also under consideration in this evaluation framework, which also encompassed stakeholder perspective with the indices system. Apart from the analytical framework of evaluation system, research on ecological environment has increasingly necessitated the use of interdisciplinary scientific methods to monitor the ecological environment. For this reason, application of GIS remote sensing was also included in this special issue. Yao argued that the integration of GIS remote sensing information is conducive to ecological environment quality monitoring. Compared with Mao' study, what is particularly emphasised in Yao's study is the further annexation of the use of GIS remote sensing information integration, which, as Yao has argued, is of great significance upon the accuracy improvement of ecological environment quality monitoring. In addition, study on comparison between different methods and models have also been conducted by Mu et al. In their study, 12 KV permanent magnet-operated VCBs have been tested for mechanical lives. According to further evaluation results, it is also argued that the method proposed in this paper has better evaluation accuracy and certain engineering application. Besides, evaluation on cutting edge market systems (e.g., water rights market) by Liu et al. is also of great importance for institutional design towards the relationship between industrial development and environmental protection. This evaluation research took on the water

rights transaction system in the Yellow River Basin of Inner Mongolia Autonomous Region as the case project, incorporating assessment on aspects such as water rights transaction parties, tradable water rights, transaction procedure, transaction price and transaction period.

Given the necessity of application of theory and method, a wealth of case studies on particular projects and experiment has been conducted by scholars in this field. Panigrahi and Mishra provided an analysis of energy and exergy by using on a 5.9 kW diesel engine fuelled with diesel and WPE10 [10% of low-density polyethylene (LDPE) oil blended with 90% diesel by volume]. In this experiment, the analysis was conducted on per mole of fuel and on stoichiometric basis after using kaolin catalysed pyrolysis method to obtain LDPE oil. The result of this study has shown that the energetic and exergetic performance of WPE10 is similar to the diesel fuel.

On the aspect of water conservancy projects, Zhang et al. examines strategic relationship between water conservancy construction and environmentally sustainable development in greater depth, exploring effects of hydraulic engineering construction on the environment problems. Authors of this article reviewed the previous studies on solutions to water conservancy project construction and environmental problems and emphasises general principles of balancing water conservancy project construction and environment construction.

Considering the relative importance of practical influence of application of modern high and new technology on ecological environment, simulation experimental research is necessary. Accordingly, two simulation researches in the field of hydrogeology have been conducted. Liu et al. filled the research gap with regard to the evolution of the water flowing fracture zone in overburden strata under the fully mechanised caving mining conditions, the impact of which on the ecological environment could be predicted. By examining the water flowing fracture zone of 311,101 working face, this study has provided guidance and reference for the subsequent working face mining. Another simulation experiment study by Lu et al. also showed a sophisticated orchestration of both currently prevailing simulation models and explanation on the degree of their validity for studying the influence of plow pan on water infiltration in dry land. The result of this simulation study has revealed the basic applicability of current models (Kostiakov model, Horton model and Philip model) upon aspect of explaining the relation between accumulative infiltration capacity and infiltration time on one hand; and has showed that the plow pan structure of soil exerts an infiltration resistant and reducing effect on the distribution of infiltrated water, on the other.

Gratefully, Xie has reviewed an eye-catching territory related to the environmental protection of world cultural heritage sites from the perspective of circular economy. By performing a qualitative investigation on people's awareness of the circular economy and the environmental protection of the world's cultural heritage sites, Xie has envisaged an outlook of environmental protection of world cultural heritage as an intrinsic part of circular economy in future.

Revisiting these empirical studies and their related theoretical analysis summarised in their experiment, readers of this special issue will be impressed by these comprehensive perceptions on waste management and environmental sustainability. These research in divergent fields not just underpin the theoretical analysis and argument on case studies, but also enrich database consisting of first-hand interviews, secondary accounts and statistical illustrations, which enables scholars to gasp a more straightforward and visual information on this theme.