Preface

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The conference on the 3rd International Conference on Biological Waste as Resource 2018 (BWR2018) was held at The Education University of Hong Kong between December 17 and 19, 2018. As one of the BWR conference series, it has offered an opportunity for knowledge exchange and technology transfer among academics and professionals all over the world to assist the formulation of an effective sustainable management agenda for organic waste in the local context, which satisfies the environmental

compatibility, financial feasibility, and social needs. In the conferences, 136 papers were presented (99 oral presentations and 37 poster presentations), which involve the following topics: (1) environmental remediation, (2) waste management, and (3) resource recovery.

Biowaste has become a concern in metropolitan cities due to the rapid development of urbanizations. Resources can be recovered from biowaste and turned into value-added products or help in environmental remediation. In consideration of the values of biowaste, ten research papers were selected from the conference presentations. This special issue (Application of Biowaste) aims to report the latest research on applications of biowaste such as food waste, manure, and sawdust for (1) remediation of contaminated soil/water/air and (2) production of animals feed, with a focus on the potential toxic chemicals contained in the waste which may affect their usages.

Singh et al. (2020) stated that the application of earthworm-mediated vermitechnology increases sustainable development, and an alternative way for biochar production from *Robinia pseudoacacia* biowaste for soil amendment was suggested by Xiao et al. (2019). The technology includes an integrated aerobic and oxygen-limited carbonization process and a fire–water-coupled method.

Products derived from biowaste, such as biochar, are playing a significant role in remediation. Qin et al. (2019) and Kim et al. (2020) discussed the application

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of biochar and carbon-based adsorbents, including granular activated carbon (GAC), expanded graphite (EG), and multi-walled carbon nanotubes (MWNTs), in elimination of ammonium and color substances in water phase environment. On the other hand, Xia et al. (2019), Van Poucke et al. (2019), and Tao et al. (2019) studied the application of biochar in pollutant remediation for both water and soil. Farooq et al. (2019) suggested an innovative electro-conductive activated carbon by mixing powdered activated carbon (PAC) with an electro-conductive polymer (ECP). The mixture could help to solve the packing problem of PAC, as well as increase the breakthrough capacity.

Composting and activated sludge (AS) are promising technologies widely used for biowaste treatment. Wang et al. (2019) found that perlite mixed with spent mushroom substrate in ratios of 3:1 and 2:2 could be used as bulking agents in sewage sludge composting for producing plant cultivation substrate. Kim et al. (2019) focused on influences of the antibiotic

ciprofloxacin (CIP) on microbial communities in activated sludge (AS) processes under aerobic environment. It was found that the amount of *Rhodobacteraceae* and *Nakamurellaceae*, which are species commonly identified in AS communities, was drastically lowered after exposure to 500 µg/L of CIP.

The special issue has addressed the issues about the application of biowaste and products derived from biowaste in environmental remediation and resource recovery. We would like to express our gratitude to the authors and reviewers for their time and contributions. Special thanks are given to Prof Wong Ming Hing (the Editor-in-Chief of Environmental Geochemistry and Health) for the opportunity of publishing this special issue.

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