



Environmental functions of biochar—a special issue for the 3rd Asia Pacific Biochar Conference (APBC 2016)

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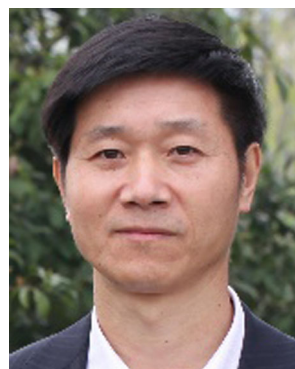
The 3rd Asia Pacific Biochar Conference (APBC 2016): A Shifting Paradigm towards Advanced Materials and Energy/Environment Research was successfully held on October 19–23, 2016, in Chuncheon, Gangwon Province, the Republic of Korea. This conference provided well-designed opportunities for participants to present their work to make professional collaboration, following the first and second APBCs that were successfully held on the Gold Coast, Australia (May 17–20, 2009) and Kyoto, Japan (September 15–18, 2011), respectively.

In the past decade, biochar has been used in a wide range of applications from soil fertility improvement to being used as industrial materials. Initial interest in biochar was to use it as a means to remove carbon dioxide from the atmosphere. However, recent developments have seen biochar being applied in engineering, health care, and life sciences; some of those applications have a great potential for rapid commercialization. The APBC 2016 was devoted to the expectation of a paradigm shift towards the development of the next generation of biochar with applications in a range of new fields.

A number of special symposia were held during the APBC 2016 conference, including Persistence of Biochar and Its Effects on Soil Organic Matter, Biochar and Nutrient Dynamics in Soil, Biochar in Soil Remediation, Emerging Pollutants and Biochar Interactions, Effects of Biochar on Soil

Biota and Soil Functioning, Biochar in Mined Environments: Remediation and Phytostabilization of Mine Wastes, Biochar Production from and Application for Wastewater Treatment, and Biochar as a New Adsorbent. The APBC 2016 conference attracted more than 350 participants from over 30 countries. This special issue of ESPR is a collection of selected contributions from the APBC 2016 conference participants, and is published after a stringent peer-review process. The special issue mainly covers topics related to the environmental functions of biochar.

As Guest Editors, we would like to thank the authors, reviewers, and fellow ESPR editors and editorial assistants for their hard work and contribution to this special issue. We would also like to thank Prof. Philippe Garrigues, the Editor-in-Chief of ESPR, for his kind invitation to publish this special issue in ESPR.



Dr. Hailong Wang is a distinguished professor at the School of Environment and Chemical Engineering, Foshan University, China. He is the director of the Biochar Engineering Technology Research Center of Guangdong Province, China. Prof. Wang's research focuses on biochar and its effect on ecosystems, remediation of contaminated soils, soil carbon sequestration related to land use, and beneficial use of residual biomass. Prof. Wang currently serves as a member of the International

Biochar Initiative (IBI) Advisory Committee; a deputy coordinator of the Forest Soils and Nutrient Cycles Unit in the International Union of Forest Research Organizations (IUFRO); an expert of international standing and an assessor for the Australian Research Council; an editor of the "Environmental Science and Pollution Research" and "Journal of Soils and Sediments"; and a member of the editorial board of "Waste and Biomass Valorization." As chairman, Prof. Wang is organizing the 4th Asia Pacific Biochar Conference (APBC 2018), which will be held on November 4–8, 2018, in Foshan, China.

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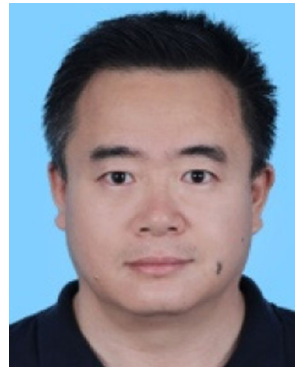
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Dr. Yong Sik Ok is a Full Professor in the Division of Environmental Science and Ecological Engineering, Korea University, Seoul, Korea, where he also serves as the Director of the Korea Biochar Research Center. He also served a number of positions worldwide including Adjunct Professor at the University of Wuppertal, Germany, Honorary Professor at the University of Queensland, Australia, Guest Professor at China Jiliang University, China,

and Guest Professor at Ghent University Global Campus, Ghent University, Belgium. Prof. Ok's academic background covers waste management, bioavailability of emerging contaminants, and bioenergy and value-added products such as biochar. Prof. Ok also has experience in fundamental soil science and remediation of various contaminants in soils and sediments. Together with graduate students and colleagues, Prof. Ok has published over 500 research papers, 28 of which were ranked as ESI top papers (24 nominated as "Highly Cited Papers" and 4 nominated as "Hot Papers"). Prof. Ok maintains a worldwide professional network through his service as an Associate Editor for *Environmental Pollution and Critical Reviews in Environmental Science and Technology*, and as a Member of the Editorial Boards of *Chemosphere*, *Journal of Analytical and Applied Pyrolysis*, and several other international scientific journals.



Dr. Yongtao Li is a Full Professor of soil and environmental science in the College of Resource and Environment, South China Agricultural University (SCAU) in Guangzhou, China. He is the director of Resources and Environment Research Center, and Sino-UK Joint Institute for Environmental Research & Education (SCAU-LEC-GIG), and discipline leader of both Agricultural Resources and Environment and affiliated Soil Science of SCAU, and Vice chair-

man of academic committee (agriculture and forestry division) of SCAU. Yongtao Li also serves as the director of Key Laboratory of Arable Land Protection of Ministry of Agriculture of China, and the director of Engineering Technology Center of Arable Soil Pollution Remediation of Guangdong Province. He is vice president of the National Collaborative Innovation Union for Heavy Metal Pollution Prevention in Farmland Environment, and executive director of Soil Science Society of China. He is a subject editor or an editorial board member of *Journal of Soils and Sediments (SCI)*, *Soil Ecology Letter*, *Chinese Journal of Soil Science*, and *Chinese Journal of Agro-Environmental Science*.



Dr. Scott X. Chang is a Full Professor at the University of Alberta. Professor Chang's main research interests are in forest soils, soil nutrient cycling and plant nutrition, and the application of soil science in land reclamation, agriculture, forestry, and rangeland management. He is currently the Chair of the Soil Fertility and Plant Nutrition Commission of the International Union of Soil Science. He also served as President of the Association of Chinese Soil &

Plant Scientists in North America, Chair for the Forest, Range and Wildland Soils Division of the Soil Science Society of America, and Chair of the Alberta Soil Science Workshop. Dr. Chang is currently a Regional Editor for *Biology and Fertility of Soils*, and is serving on the editorial boards of *Forests* and *Pedosphere*. He was an editor for special issues for the *Canadian Journal of Soil Science* and was an associate editor/guest editor for the *Canadian Journal of Soil Science*, *Journal of Environmental Quality*, *Environmental Science and Pollution Research*, *Forests and Forest Ecology and Management*. Professor Chang is a Fellow of the Soil Science Society of America, the American Society of Agronomy, and the Canadian Society of Soil Science.