

Bioaerosol: A Key Vessel between Environment and Health

Jingkun Jiang¹, Maosheng Yao², Jungho Hwang³, Can Wang⁴

¹ School of Environment, Tsinghua University, Beijing 100084, China

² College of Environmental Sciences and Engineering, Peking University, Beijing 100087, China

³ Department of Mechanical Engineering, Yonsei University, Seoul 03722, Republic of Korea

⁴ School of Environmental Science and Engineering, Tianjin University, Tianjin 300350, China

© Higher Education Press 2021

Airborne transmission of infectious diseases has become a topic of intense debate since the outbreak of COVID-19. This special issue entitled “Bioaerosol, Environment and Health” is organized in an effort to develop a better understanding of the roles bioaerosols play between environment and health. Bioaerosols are generally described as airborne microorganisms with fragments and particulate matter of biological origin such as virus, bacteria, and fungal spores. These small biological particles can affect human health by causing infectious diseases, acute toxic reactions, and allergies. As experienced, outbreaks of severe acute respiratory syndrome (SARS) and influenza H1N1 viral infections across the globe have attracted worldwide attention. This special issue was launched to call for papers on February 19th, 2020, when the number of COVID-19 patients have increased dramatically, and subsequently has caused widespread concerns in the global landscape. Therefore, we believe this Special Issue could help accelerate relevant work and help develop a better understanding of aerosol transmission of COVID-19 and related subjects.

The contents included in this Special Issue on “Bioaerosol, Environment and Health” provide excellent overviews of the current status and future prospects in the field of bioaerosol. There is a total of accepted 13 papers and 1 comment in various related topics including fundamental of bioaerosol and airborne infection disease such as COVID-19, analysis and identification of bioaerosol in various environments, bioaerosol emission, transport and deposition, bioaerosol during haze episodes, airborne antibiotic resistant bacteria, impact of bioaerosol on health and environment, bioaerosol inactivation and control technologies and case studies of airborne infection and its prevention. These studies from the special issue clearly demonstrated that bioaerosol plays an important role between human health and environments, and certainly more efforts are needed to further elucidate the links.

The Guest Editors would like to thank the authors and reviewers for their special efforts to make this issue a valuable reference for all those interested in the state of Bioaerosol, Environment and Health. We would also like to thank the Journal Manager and Editors, Ms. Xiangyi Zhang, Dr. Jianjun Zhu and Dr. Jiao Zhang for their valuable assistance in helping prepare this Special Issue.

Guest Editors of the Special Issue:

Prof. Jingkun Jiang, Tsinghua University, China, jiangjk@tsinghua.edu.cn

Prof. Maosheng Yao, Peking University, China, yao@pku.edu.cn

Prof. Jungho Hwang, Yonsei University, Republic of Korea, hwangjh@yonsei.ac.kr

Prof. Can Wang, Tianjin University, China, wangcan@tju.edu.cn