

Seminar on Microbial life in the air

Date: April 27, 2018 (Friday)
Time: 2:30pm – 4:30pm
Venue: 902, 9/F, Yasumoto International Academic Park, The Chinese University of Hong Kong
Speaker: Professor Maosheng Yao, PhD
State Key Joint Laboratory of Environmental Simulation and Pollution Control
College of Environmental Sciences and Engineering
Peking University, China



Abstract

Presently, bioaerosol research is booming in the academic community. In this talk, I will first briefly review bioaerosol emission sources, spatial and temporal patterns, impacts as well as the history of bioaerosol field. Following this, discussion about bioaerosol field challenges will be presented. Then, the talk is focused on the developments of BioSTAND bioaerosol system by our laboratory, including BioScreen for EBC collection, HighBioTrap for rapid bioaerosol detection, SLEPTor for PM toxicity, KILLer PM concentrator, dLABer for real-time PM toxicity biomarker analysis, and GREATpa for real-time bioaerosol detection and analysis. Their respective applications and the corresponding findings will be presented in different settings, including real clinical cases. Besides, antibiotic resistant genes in global ambient particulate matters will be also presented and discussed. Last, some recent bioaerosol conference and journal activities for promoting the discipline will be also mentioned, and future forward-looking bioaerosol research directions will be summarized as well.

Summary

Prof. Yao received his PhD in Environmental Science in 2006 from Rutgers University, and performed postdoctoral studies at Yale University afterwards. Prof. Yao joined Peking University via “100 Scholar Program” in 2007. Prof. Yao is currently a FULL Professor with Tenure in the College of Environmental Sciences and Engineering, Peking University, China. Prof. Yao’s research interests are mainly focused on bioaerosols (airborne bacteria, virus, fungi and etc.). As of now, Prof. Yao has published 68 peer-reviewed journal articles, including 62 first/corresponding ones, and filed/received 16 national invention patents. Over the past 10 years, Prof. Yao along with his students have developed three major aerosol systems: GREATpa, SLEPTor and dLABer. These innovative systems have enabled his team to real-time monitor biological agents in the air, to study the PM_{2.5} health effects mechanisms on a single living cell level, and also to characterize the PM_{2.5} health effects on an animal level through real-time detecting breath-borne biomarkers. His studies were featured as research highlights by American Association for the Advancement of Science (AAAS), and ACS Chemical & Engineering News. His work has been recognized by three major continents, including the Marian Smoluchowski Award in 2013 from GAeF, the 2013 Asian Young Aerosol Scientist Award from Asian Aerosol Research Assembly (AARA), and also the Kenneth T. Whitby Award in 2014 from AAAR. His several research patents have been successfully commercialized and helped save children’s lives in many ICU cases. In 2015, Prof. Yao won a Second Prize for “P.R. China State Technological Invention Award”, and the 44th Geneva International Exhibition Special Gold Award in 2016. In 2017, Prof. Yao was awarded the NSFC Distinguished Young Scholar Award—one of the highest honor bestowed to a scientist below 45 years old in China, and in the same year Prof. Yao organized the first state level bioaerosol Xiangshan Conference. Prof. Yao serves an editorial board member/Guest Editor for J Aerosol Sci and Atmos Environ, and is an Awards Committee member of the American Association for Aerosol Research (AAAR). Currently, Prof. Yao is also serving as the Vice Chair for Indoor Environment and Health Branch, Chinese Society for Environmental Sciences.

~All are Welcome~