

UNIVERSITY OF MACAU
FACULTY OF SCIENCE AND TECHNOLOGY
DEPARTMENT of
CIVIL AND ENVIRONMENTAL ENGINEERING

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"Diversity and molecular monitoring of bloom forming cyanobacteria and their toxins"

by

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Venue: E11 - 1036

Abstract

Environmental problems caused by cyanobacterial blooms in eutrophic lakes, rivers and drinking water reservoirs have been increasingly documented. Toxins and Odor substances produced by cyanobacterial blooms, directly threading to human health through drinking water systems, have been attracted more attention and extensively studied. In the past decades, the cyanobacterial blooms mainly dominated by *Microcystis* spp. have been frequently found in large shallow lakes from the southern China.

This presentation will focus on diversity studies by the polyphasic approach including morphological and phylogenetic analyses in several major groups of water bloom forming cyanobacteria of Chinese waters: Unicellular *Microcystis* and heterocystous *Cylindrospermopsis/Raphidiopsis*. Cyanobacterial diversity in chinese water bodies was further evaluated by the pyrosequencing, and the results exhibiting quite different cyanobacterial community structures. The distributing pattern of morphotypes and genotypes of these water bloom forming cyanobacteria in the Chinese large lakes will be demonstrated. Harmful metabolites including Microcystin, cylindrospermopsin and geosmin related genes have been extensively characterized and evolutionary relationship based on these genes among the bloom forming cyanobacteria from China will be discussed.

Biography

Prof. Renhui LI is currently the director of Algal Research Center, Institute of Hydrobiology, the Chinese Academy of Sciences. He received a PhD degree in Biology from The Institute of Biological Sciences of the University of Tsukuba in Japan in 1998. Prof. Li conducted his research in the United States as a postdoctoral research associate for 6 years after his graduation. The universities he worked in U.S. include the Wright State University, Virginia Polytechnic Institute and State University, and the University of Tennessee. Prof. Li has been the professor of the Institute of Hydrobiology, the Chinese Academy of Sciences since September 2005. His research concerns include diversity and phylogeny of cyanobacteria, especially water bloom forming cyanobacteria; Molecular monitoring of toxic cyanobacteria in Chinese waters as a warning tool to drinking water system; Evolutionary history among cyanobacterial organisms using multi-genetic and genomic evidences.

ALL ARE WELCOME!