Multiple Positions in the School of Environmental Science and Engineering and Environmental Microbiome Research Center at Sun Yat-sen University, Guangzhou, China

Sun Yat-sen University (SYSU, http://www.sysu.edu.cn/2012/en/index.htm), founded by Dr. Sun Yat-sen and with an educational tradition spanning over 100 years, is a preeminent research, academic and cultural center and the premier location for talent development in South China. Under the direct supervision of the Ministry of Education of the People’s Republic of China, and strongly supported by both the Ministry and Guangdong Province, Sun Yat-sen University has developed into a modern comprehensive university that enjoys a reputation as a top-tier university nationally and a renowned university internationally. With five campuses in the three cities of Guangzhou, Zhuhai and Shenzhen, and ten affiliated hospitals, the University is striving to become a world-class university and global center of learning.

The School of Environmental Science and Engineering. The School of Environmental Science and Engineering (SESE) (http://sese.sysu.edu.cn/) has a geographic origin which could be dated back into 1929. SESE is now comprised of Department of Environmental Science, Department of Environmental Engineering, Experimental Center and Institute of Environmental Science, and has a variety of platforms for environmental science and technology, such as Guangdong Provincial Key Laboratory of Environmental Pollution Control and Remediation Technology, Australia-China Center of Environmental Quality and Sustainability, Sino-French Joint Laboratory of Soil Environment, and Environmental Microbiome Research Center. SESE aims to promote research and education on environmental science and technology, environmental microbiology, and social services related to air, water and soil environments. SESE has more than 59 faculty members including 26 professors and 26 associate professors with a target of 85 by 2020. The research topics in SESE include environmental microbiology, soil environmental research (contaminated soil remediation, soil-groundwater interactions, and soil carbon/nitrogen cycling in the ecosystem), water environmental research (water environment modeling, water environmental engineering such as industrial wastewater, domestic wastewater, and drinking water), air environmental research (atmospheric chemistry and air pollution control engineering), environmental management, environmental chemistry and materials, and environmental toxicity and health.

Environmental Microbiome Research Center. Environmental Microbiome Research Center (EMRC) is a newly established research center for environmental microbiome research and education, and aims to understand the role of microorganisms in the environment, and engineer them to improve environmental health. EMRC has four core laboratories.

1. Data Science Laboratory (DSL). DSL focuses on data generation (e.g., sequencing), data processing, data analysis, and data modelling as well as application and development of
computational, bioinformatic and (meta)genomic tools. DSL candidates are expected to have the following major responsibilities: (i) generate sequence, microarray, proteomic, and metabolic data using high throughput technologies for microbiome studies; (ii) use various existing advanced mathematical, statistical and/or computational tools for microbiome data analysis (e.g., networking, machine learning, modeling, prediction); and (iii) develop novel mathematical, statistical and computational frameworks and approaches for facilitating microbiome data analysis, interpretation and modelling.

2. Environmental Microbial Ecology Laboratory (EMEL). EMEL aims to study microbial ecology theories and analysis of microbial communities from very complex, natural communities, simplified enrichments, to defined communities. EMEL candidates are expected to perform the following major tasks: (i) design novel experiments to prove/disprove important ecological theories via synthetic ecology approaches; (ii) develop novel frameworks to address fundamental scientific questions in microbial ecology; and (iii) analyze the diversity, composition, structure, function, network, dynamics and evolution of microbial communities from air, water, soil and other environments using high throughput technologies (e.g., sequencing, microarray, single cell genomics, transcriptomics, proteomics, metabolomics) coupled with traditional molecular techniques (e.g., isolation, stable isotope probing).

3. Systems Microbiology Laboratory (SML). SML is centered on isolation, enrichment and engineering of functional microorganisms and microbial communities, and understanding of gene function, regulation and network. SML candidates are expected to perform the following major tasks: (i) isolate and characterize functional microorganisms and microbial communities; (ii) understand gene function, regulation, and network of functional microorganisms using novel genome editing tools (e.g., CRISPR Cas9); and (iii) optimize functional microorganisms and communities towards improvements of human health, plant productivity, ecology safety, and environment quality.

4. Environmental Application Laboratory (EAL). EAL targets the development of microbiome related technologies for environmental applications, such as engineering microbiomes for bioremediation of contaminated sites. SML candidates should have extensive experience in the following aspects: (i) aerobic and anaerobic bioreactor design and operation; (ii) optimization of microbial growth and functional processes towards improved functionality; and (iii) engineering microbiomes and evaluation of their performance in the laboratory and in the field.

Positions available. Multiple-levels positions from professors, associate professors, research scientists, to postdoctoral researchers related to the above four topics are nationally and internationally recruited, which is part of microbiome initiative at SYSU with the ultimate goal to promote multi-disciplinary microbiome research and education. Each candidate should have a PhD in environmental microbiology, bioinformatics, microbial ecology, systems biology, environmental science/engineering, computing/information science, or related disciplines (e.g., microbiology, hydrobiology, molecular biology, biochemistry, ecology, mathematics, statistics, computer/information science) with substantial knowledge and experience in microbiome related studies, including bioinformatics, metagenomics, environmental microbiology, microbial ecology, metabolic engineering, genome editing, and systems biology. High quality publications are the key factor for those competitive positions, and also important are excellent oral and
written communication skills and a demonstrated ability to interact and collaborate with others in the scientific community. Salary will be highly competitive and commensurate with qualifications.

**Application process.** Confidential review of applications will begin May 10, 2017 and continue until those positions are filled. Interested individuals are invited to send (i) a full curriculum vitae along with a letter of application, (ii) a description of interested positions, research interests and accomplishments, and (iii) contact information of at least three references. Inquiries regarding EMRC should be directed to Drs. Zhili He (email: hezhili@mail.sysu.edu.cn; phone: +86-20-3106-5837), Qingyun Yan (email: yanyqy6@mail.sysu.edu.cn; phone: +86-20-3156-1769), and Shanquan Wang (email: wangshanquan@mail.sysu.edu.cn; phone: +86-186-8055-2348).