



News & Events

SOE Student WANG Jiaming Honored 2013 China Self-Motivated Leader of College Student

The 2013 China Self-Motivated Leader of Colleague Students Nomination has announced its winners in January. WANG Jiaming, master student from SOE, was awarded the honor. The theme of this event was “My Chinese Dream—Youth should be self-motivated to make Chinese dreams come true”.

WANG Jiaming, who was a high school student surviving the catastrophic Wenchuan Earthquake in 2008 and saved lots of his classmates from the ruins, was admitted to Tsinghua University for his heroic performance. When he graduated from undergraduate program, WANG Jiaming participated in Tsinghua Teaching Volunteer Group to Tibet, working in Tibet Vocational and Technical College for one year. In 2013, WANG Jiaming continued to pursuit master's degree in SOE. Through his life in Tsinghua, WANG Jiaming has been very active in various volunteer activities and offered eight blood donations since 2008.



SOE Student WANG Jiaming Honored 2013 China Self-Motivated Leader of College Student

The Self-Motivated Leader Nomination has been held for 7 years. 70 Chinese college students had been nominated the leaders and nearly 700 students won the title of self-motivated model.

from Tsinghua News



School of Environment, Tsinghua University
Beijing 100084, China
www.env.tsinghua.edu.cn
E: hjx@tsinghua.edu.cn
T: 86 10 62784521
F: 86 10 62785687

Editor: Gao Xiaojuan
Supervisor: Liu Shuming
E: soexc@tsinghua.edu.cn

State Key Joint Laboratory of Environmental Simulation and Pollution Control Hosts Annual Academic Committee Meeting

The 2013 Annual Meeting for the 4th Academic Committee of the State Key Joint Laboratory of Environmental Simulation and Pollution Control was held in SIEEB on March 31. 17 academic committee members and three honorary members attended the meeting.

SOE Dean HE Kebin presided over the opening ceremony. Academician QU Jiuhui, Director of the Academic Committee, presided over the meeting. Prof. Huang Xia, Director of the State Key Joint Laboratory of Environmental Simulation and Pollution Control, delivered the 2013 annual report, which gave a comprehensive introduction of the laboratory construction in the past year. Representatives from Peking University, Research Center for Eco-Environmental Sciences of the Chinese Academy of Sciences, Beijing Normal University and THU gave reports, respectively.

The academic committee fully acknowledged the achievements the laboratory made in 2013. The committee also put forward valuable suggestions on how to take the advantages of cooperation and innovation to solve environmental problems and provide consulting for the government.

by Li Ruirui

MEP Delegation Visited Basel Conventional Center for Asia and the Pacific

A delegation from MEP's Pollution Prevention and Control Department (PPCD) visited Basel Conventional Center for Asia and the Pacific (APC) located in SOE on March 24.

Representatives from Tsinghua R&D Office, SOE and APC met the delegation

Prof. HAO Jiming, Director of Environmental Science and Technology Research Institute in SOE, presided over the meeting. SOE Prof. LI Jinhui, Executive Director of APC reported the work of APC. Prof. LI suggested that APC should be planned as a high-level research center for international environment conventions of chemicals and waste, a technology and information hub of chemicals and waste in Asia and the Pacific, a technical support center for the implementation of Basel Convention in China, a window for the Chinese Government to provide environmental-technical assistance, and a senior officials training base for countries in Asia and the Pacific.

Mr. ZHAO Yingming, Head of PPCD and Director of APC, suggested that APC should focus on the four fields : 1) formulating APC short- and medium-term strategic planning based on the advantages of THU in training, technology and information, 2) making annual work plan according to the major tasks of related departments at the Environmental Protection Ministry, 3) setting rules for management procedures for APC to ensure its efficient operation, 4) preparing the steering committee meeting of APC.

by Liu Xue



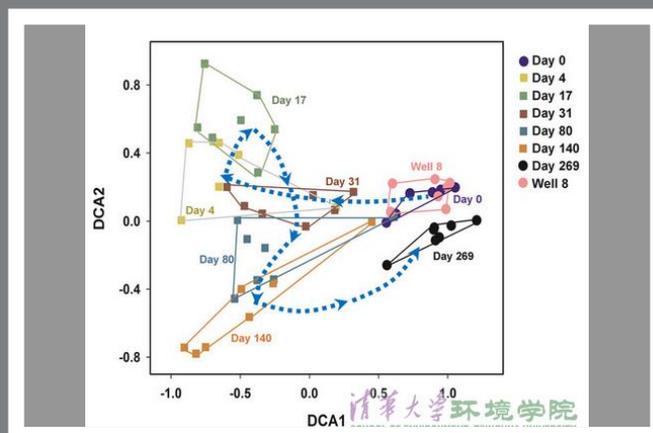
Research & Achievement

Prof. ZHOU Jizhong's Group Announces New Framework of Ecological Succession in PNAS

ZHOU Jizhong, SOE professor of Global Recruitment Program, published a paper entitled *Stochasticity, Succession and Environmental Perturbations in a Fluidic Ecosystem* with his group in *Proceedings of the National Academy of Sciences* (PNAS) on line on February 18, 2014, proposing a new conceptual framework of ecological succession law. The importance of stochastic processes in the ecological succession is also verified in this study. Prof. ZHOU is the first and the corresponding author.

Prof. ZHOU Jizhong proposed that the physical characteristics of an ecosystem had dramatic impacts on its succession. The community dispersal is significantly restricted in a non-fluidic ecosystem, resulting in a weaker stochasticity than that of a fluidic ecosystem. In general, environmental perturbations have been classified into two categories: 1) nutrient input, which is believed to increase compositional stochasticity; 2) disturbances, which is believed to decrease compositional stochasticity. In addition, the persistence of environment change is also an important factor. Because the ecosystems are flexible to the non-permanent environmental changes, their responses to those changes are inconsistent. Considering all these factors, the relative importance of stochastic and deterministic processes is theoretically predictable.

The framework was then tested with a groundwater system contaminated by heavy metal. With 269-day's continuous detection of the bioremediation process of the groundwater system, the group found that stochastic processes play important roles in controlling the



Microbial community succession in bioremediation process of heavy metal contaminated groundwater system

microbial community succession. During the early-to-mid phase of the succession, the roles of stochastic processes in controlling community composition increase substantially from 81.3% to 92.0%. At the final phase of the succession, as the environmental perturbations disappear gradually, deterministic processes become more important. Therefore, understanding the relative importance of stochastic and deterministic processes is dynamic rather than static. The data in this study are consistent with the proposed conceptual framework but contradictory to conventional wisdom.

The conceptual framework for ecological succession is significant for predicting the responses of ecosystems to environmental change and protecting the biodiversity.

by Yang Yunfeng

Microbial Composition of PM pollutants in Beijing Revealed in ES&T

ZHU Ting from Tsinghua School of Life Sciences, JIANG Jingkun from SOE, and TIAN Geng from Tsinghua Center of Biomedical Analysis, jointly published a paper entitled *Inhalable Microorganisms in Beijing's PM_{2.5} and PM₁₀ Pollutants during a Severe Smog Event on Environmental Science & Technology (ES&T)* on January 13, 2014. *Nature* pressed an online comment on the paper on January 31 (*Nature* doi:10.1038/nature.2014.14640).

Particulate matter (PM) is the primary pollutant affecting urban air quality. However, due to the limitations of traditional research methods, not much is known about the microbial composition of inhalable PM pollutants. This study employed metagenomic methods to analyze the microbial DNA sequences which were extracted from PM pollutants. The microbial composition of PM pollutants was identified at the species level for the first time. The results suggested that the majority of the inhalable microorganisms were soil-associated and nonpathogenic to human. Nevertheless, the sequences of several respiratory microbial allergens and pathogens were identified. These findings may serve as an important reference for smog prevention, public healthcare, and city planning.

by Jiang Jingkun



Workshop on PM_{2.5} Pollution in Beijing-Tianjin-Hebei Region Held at Tsinghua

Workshop on PM_{2.5} Pollution in Beijing-Tianjin-Hebei Region was held at Tsinghua University on March 26. The workshop was hosted by the Co-Innovation Center for Regional Environment Quality (CICREQ). SOE Prof. HAO Jiming and Prof. TANG Xiaoyan from Peking University co-presided over the seminar. About twenty people from the MEP, Ministry of Education, Ministry of Science and Technology, Beijing Environmental Protection Bureau, SOE, Peking University, Chinese Academy of Sciences and Zhejiang University attended the meeting.

The workshop aims to promote the communication of research results regarding the causes and control of PM_{2.5} pollution, which could be used as technical supports for the government to fight against the air pollution. A number of reports were made on the latest research on PM_{2.5} pollution.

“Co-Innovation Center for Regional Environment Quality is an institution jointly organized by Tsinghua University, Peking University, Nanjing University, Tongji University, Eco-Environmental Sciences Research Center of Chinese Academy of Sciences, and Chinese Research Academy of Environmental Sciences.”

During the brainstorm session, Prof. HAO Jiming emphasized that mere control of a single pollutant might have negative impact. He advocated the research on multi-pollutants control through the integration of their formation mechanisms. Prof. HE Kebin called for more exchanges on the current research to bring out efficient guides supporting the Air Pollution Prevention Action Plan issued by the State Council last year and making preparation for the next-phase policies after 2017.

As a jointly organized institute, CICREQ is dedicated to the development of environment discipline, personnel cultivation, and scientific research. The main research areas include: 1) formation mechanism and interface physico-chemical process of particle pollutants, 2) impacts of regional complex pollution on health and ecology, 3) transportation and innocuous disposal of persistent pollutants.

by Liu Jianzhen

Asian Water Development Outlook III Kicked off in Kunming

Tsinghua Asian-Pacific Center for Water Security (APCWS) initiated the third edition of the Asian Water Development Outlook (AWDO III) on a meeting held in Kunming on March 3rd-4th. The meeting reviewed the Asian Water Development Outlook 2013 issued by Asian Development Bank (ADB), and set working plan for AWDO III expected to publish in 2016.

Prof. DU Pengfei, Chairman of SOE Council, and Mr. Ian MAKIN, Chief Water Expert of the ADB Regional and Sustainable Development Department, presided over the meeting. Around 20 representatives from Tsinghua, ADB, Peking University, World Resources Institute, International Water Management Institute and other institutes attended the meeting. The representatives put forward their ideas on how to carry out research on AWDO III officially, and



reached a preliminary agreement with the division and cooperation of writing AWDO III.

The meeting provided a communication platform for international experts to share knowledge and experience of water security in Asia and the Pacific.

by Ma Wen

Exchanges & Cooperation

Trojan-Tsinghua UV Disinfection Program Launched

The signing ceremony of the Trojan-Tsinghua UV Disinfection Program was held in SOE on March 11. Around 20 people including Minister of Ontario Research and Innovation Mr. Reza Moridi, Vice President of Trojan Technologies Mr. Ted MAO, Director of Tsinghua Overseas R&D Management Office Ms. MA Jun, SOE Dean HE Kebin, Director of Tsinghua Disinfection Research Center SOE Prof. LIU Wenjun, SOE Prof. XIE Yuefeng, Chief Engineer of Beijing General Municipal Engineering Design & Research Institute Ms. QIE Yanqiu, and Mrs. LIU Linghua from the Department of Water Environment, China Institute of Water Resources and Hydropower Research, were present at the ceremony.

This program was the second five-year cooperation between Trojan and SOE. In the first five-year cooperation starting from 2006, the two parties made significant progress in both research and engineering applications of UV disinfection technology in China. The first domestic large-scale municipal water UV disinfection engineering program, Tianjin TEDA Water UV Disinfection Engineering have been completed. As reported, two large water plants in Beijing treating the South-to-North transferred water will applied UV disinfection technology.

The two parties' cooperation will continue to make contribution to China's drinking water safety and improving drinking water quality.

by Ding Xiao'ou



Student Development

SOE Graduate Students Organize Winter Internship Assessment

SOE Youth League Committee of Graduate Students organized the exchanging and assessment meeting for 2014 Graduate Winter Internship programs on March 21.

Six teams took part in the assessment. They had done internships in Shanghai Municipal Engineering Design Institute, Xi'an High-tech Zone Environmental Protection Industrial Park, Guangdong Foshan Environmental Protection Bureau, Jiangsu Rudong County Government, China United Engineering Corporation, and China Southwest Architecture Design and Research Corporation. Representatives of the six teams introduced their experiences.

All these representatives expressed that the internship helped them be further clear with the employment and be more professional with their skills. They also gained a sincere friendship. Finally, teams who went to Shanghai Municipal Engineering Design Institute Co., Ltd., Jiangsu Rudong County, and Xi'an High-tech Zone Environmental Protection Industrial Park won the top of three places, respectively.

by Liu Bo

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