

# Newsletter

SCHOOL OF ENVIRONMENT TSINGHUA UNIVERSITY



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## SOE Confers Degrees on Graduates of the year

SOE Commencement 2013 for postgraduates and undergraduates were held in SIEEB (Sino-Italian Ecological and Energy Efficient Building) on July 16. Prof. Zuo Jian'e, Vice Dean of SOE, presided over the ceremony. Prof. Qian Yi, Academician of the Chinese Academy of Engineering, Prof. He Kebin, Dean of SOE, Prof. Du Pengfei, Chairman of SOE Council, Prof. Duan Lei, Vice Dean of SOE, Prof. Liu Jianguo and Prof. Liu Wenjun, Deputy Chairman of SOE Council, and other SOE leaders attended the ceremony.

Dean He Kebin delivered the commencement address. He congratulated all graduates and pointed out that the drawbacks of industrialization and the environmental problems of the air, water, soil and food have been epitomized over time. Our country is now making great efforts to promote ecological progress. He hoped that this year's graduates should not only become practitioners in environmental fields, but also strive to become brave entrepreneurs towards uncharted challenges.

Prof. Liu Jianguo shared the overall information about SOE's 2013 postgraduate and undergraduate degrees. Prof. Du Pengfei announced the commendation decision on the outstanding graduates. Academician Qian Yi delivered a speech encouraging the graduates to shoulder responsibilities and to continue innovating and learning how to stimulate public environmental awareness in the future. Director

of the Class of 2009, Qiu Yong encouraged the graduates by saying: "Let us love our environment, and do all we can to enhance our career." Valedictions were given by the undergraduate representative, Zheng Qiaoshu, master graduate representative, Liang Hu, Ph.D. graduate representative, Li Jianzhong, and master of engineering graduate representative, Li Ruixia, respectively. They all expressed their gratitude for the love they had received from their teachers, classmates and parents. And all showed a determination to make more remarkable contributions to environmental causes backed by Tsinghua's spirit of loving life and self-discipline.

The Heads of each Division at SOE, directors of each class of the Class 2009, Group Leaders of Post-Graduate Affairs, and Group Leaders of Student Affairs attended the ceremony. Nearly 200 graduates and their relatives were present.



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## SOE Welcomes Freshmen of 2013

SOE enrolled 89 undergraduate freshmen on August 21, 2013. Prof. Liu Jianguo, Deputy Chairman of SOE Council, directors of the Class of 2013 and the freshman counselors received them at the East Sports Ground, guiding them through registration.

The ceremony for 2013 freshmen and their parents was held in SOE's auditorium on the night of August 21. Prof. He Kebin, Dean of SOE, Prof. Du Pengfei, Chairman of SOE Council, Prof. Zuo Jian'e, Vice Dean of SOE, together with the teachers and faculty from

different divisions attended the ceremony. Prof. Liu Jianguo presided over the meeting. Dean He Kebin gave a brief introduction of the SOE and academic disciplines in the area of Environmental Science and Technology. Prof. Du Pengfei answered the questions which the new students might face, with particular emphasis on their “transition” problems. Prof. Zuo Jian’e introduced the undergraduate programs and employment of SOE. Class Director and freshman counselors addressed precautions and arrangements of the enrollment. The teachers also communicated with the students and parents on several specific issues during the ceremony.

Nearly 200 graduate freshmen started their new school life at SOE on August 27. According to the Admissions Office, international students accounted for a considerable proportion of the graduate freshmen in this year. Some of them are from Canada, America and other developed countries, while some are from Pakistan, Congo and other developing countries. From August 28 on, the new students will spend nearly 20 days taking entrance education. They will be fully adapted to the new environment through the study of the history, the professional forefronts, study methods as a postgraduate and traditions of THU.

## SOE Holds Opening Ceremony for 2013 Freshmen Students

The opening ceremony of 2013 freshmen in SOE was held in SIEEB on the night of September 3. 259 undergraduate freshmen and graduate freshmen attended the ceremony. Prof. Zuo Jian’e, Vice Dean of SOE, presided over the ceremony. Prof. Hao Jiming, Academician of the Chinese Academy of Engineering, Prof. He Kebin, Dean of SOE, Prof. Jiang Jianguo and Prof. Wang Kaijun, Vice Dean of SOE, Prof. Liu Jianguo, Deputy Chairman of SOE Council, and other teacher representatives attended the ceremony.

Academician Hao Jiming delivered an opening speech to encourage the 2013 new students to make efforts to fulfill their dreams. Environmental industry would be a starting point for students to realize their dreams. No one would regret becoming a member of SOE. Cong Yi, President of the undergraduate students’ Union, Zhao Shuli, President of the graduate students’ Union, and Javen, representative of the international students, shared their experiences and feelings at THU, respectively.

At the end of the ceremony, Prof. He Kebin, on behalf of SOE, delivered the welcome address. He emphasized that SOE people shoulder great responsibilities. He expected the freshmen to inherit the THU mottoes “Rigor, Diligence, Veracity, and Creativity”, and “Self-discipline and Social Commitment” to lay a solid foundation for growing into key pillars in our country’s and even globally environmental protection industry.



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## 2 Professors Selected as “Advanced Individuals of Education”

Academician Hao Jiming and Prof. Huang Xia from SOE were honored with the “THU Advanced Individuals of Education” at the school administrative meeting held on August 22. Also 102 teachers from other departments of THU were rewarded at the meeting.



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## Prof. Li Junhua Selected as Member of the “Ten thousand Talents Program”



The Department of Personnel of MOE (Ministry of Education) issued a notice (No.274,[2013]) that Prof. Li Junhua from SOE, THU, selected as member of the first national “Ten thousand Talents Program”.

The Ten thousand Talents Program, also called the State Special High-level Talent Support Plan, is authorized by the Central Government and jointly launched by the Organization Department of the CPC, Ministry of Human Resources and Social

Security of the People’s Republic of China, and more than 11 ministries and departments. Around 10,000 domestic-oriented talents skilled at the field of natural sciences, engineering technologies and philosophy of the social sciences will be selected in batches. They will obtain special support from our country, aiming at speeding up the process of cultivating high-level innovative talents.

Autumn, 2013

Research & Achievement

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## SOE Alumni Attend Biennial AEESP Conference in USA

The Biennial AEESP (Association of Environmental Engineering and Sciences Professors) Conference was held from July 14 to 16, 2013 in Denver, USA. This year marks the 50th anniversary of AEESP. The overall theme of the conference was “Environment Engineers and Scientists of 2050—Education, Research and Practice”.

At the symposium entitled, “Environmental Education and Research in China”, SOE Prof. Xie Yuefeng and Prof. Yu Gang delivered lectures titled, “The Chinese Current Environmental Challenges” and “The Higher Environmental Education in China”, respectively. Both triggered great interest and heated discussions. Prof. Zhou Jianpeng, Director of the Department of Civil Engineering of Southern Illinois University, and the other 20 more SOE alumni working or studying in the United States also attended the conference and took part in discussions.

## SOE Prof. He Kebin and Prof. Li Jinhui Speak at Eco-Forum Global in Guiyang

The 2013 Eco-Forum Global Annual Conference was held in the Guiyang International Eco-Conference Center from July 19 to 21. SOE Prof. He Kebin and Prof. Li Jinhui of THU attended the forum and delivered speeches.

The Eco-Forum Global Guiyang has been held for 4 years since 2009, but the year 2013 marks its upgrade to a state-level forum, which is currently the only state-level international eco-forum in China. The forum was highly valued by government leaders. At the opening ceremony, Zhang Gaoli, a member of the Standing Committee of the Political Bureau of the CPC (Communist Party of China) and Vice Premier of State Council, presented a congratulatory address sent by President Xi Jinping to the forum

and made an important speech. Former State Councilor, Dai Bingguo and officials from the Ministry of Housing and Urban-Rural Development of the People's Republic of China, the Ministry of Environmental Protection, and a number of multinational politicians, attended the forum.

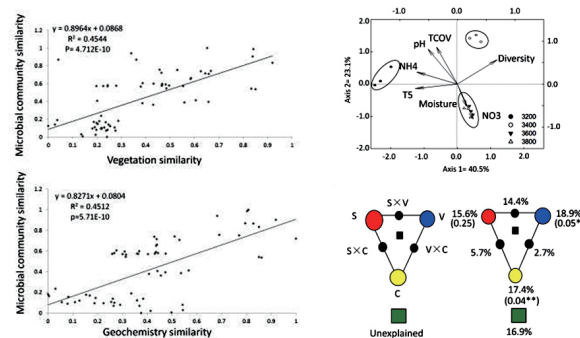
On the sub-forum titled, "PM<sub>2.5</sub> Crisis: Breath Together and Struggle Together", Prof. He Kebin, Dean of SOE delivered a speech entitled, "the Source and Control of PM<sub>2.5</sub> in China". In his presentation, Prof. He expounded the formation pathways and control programs towards PM<sub>2.5</sub> in China. On the sub-forum titled "Green Urbanization", Prof. Li Jinhui gave a report on the "Waste Management in the Process of Urbanization" issues. He pointed out that facilities for household waste sorting and disposal, and plans for urban mineral development and circular economy development should be taken into account in the process of urbanization. According to the teachers who attended the forum, the fruits of this forum have important implications on how to carry out research and teaching work at the field of ecological progress at SOE in the future.

## Yunfeng Yang Research Group Published Article in Nature-ISMEJ

Prof. Yunfeng Yang of SOE, THU and his research group published their paper entitled "The microbial gene diversity along an elevation gradient of the Tibetan grassland" on line in Nature-ISMEJ (International Society for Microbial Ecology Journal) on August 29, 2013. This is the first completed survey on the microbial gene diversity in the Tibetan plateau. Strong correlations were observed for the microbial gene diversity and environment conditions, especially for the microbial gene diversity and the soil N-cycling. Prof. Yang is the first author.

This study focused on investigating the potential microbial responses to the climate changes on Tibetan grasslands. Prof. Yang's Group showed that low temperature would cause the enrichment of stress genes in soil microbes, due to the increasing alpine stress. Microbial

communities were sensitive to soil N-cycling in the Tibetan plateau. Interestingly, a positive correlation was observed for microbial functional genes involved in ammonification and nitrification and N<sub>2</sub>O flux. Tibetan ecosystems are particularly vulnerable to climate change, and the past three decades have witnessed strong effects of climatic warming as this region has been experiencing two times the average global warming rate. It is indicated that further climate changes on Tibetan grasslands are very likely to change soil the microbial community functional structure. Therefore, it is necessary to take the factor of microbial communities into account at the establishment of the climate change model.



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## APC Co-hosts Seminar on Prevention and Control of Illegal Transboundary Movement for Waste

The Seminar on Prevention and Control of Illegal Transboundary Movement for Waste was held in Haiphong, Vietnam, from August 26 to 27, and in Hainan, China, from August 29 to 30, respectively. This seminar was co-hosted by the Basel Convention Coordinating Center (Asian-Pacific Center, APC) and the United Nations Environment Programme (UNEP) jointly with the Vietnam General Administration of Customs and the General Administration of Customs of the People's Republic of China (GACC). Around 40 representatives from different Customs in Vietnam, and 60 representatives from the Anti-smuggling Bureau, Department of Supervision and the Department of Policy and Legal Affairs in GACC, and other Anti-smuggling departments in China attended the meeting. The main content of this seminar included the topics of prevention and control mechanisms of transboundary movement

for waste under the Basel Convention, the important role which the customs officials played in the fight against the smuggling of waste as well as the importance of cooperation among countries and departments. A comprehensive analysis of the process of transboundary movement for waste should be conducted on all levels, namely legislation, management and technology, to explore effective ways to prevent and control the illegal waste movement.



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## APC Co-hosts Global Seminar on Upgrading NIP under Stockholm Convention

The Global Seminar on upgrading the National Implementation Plan (NIP) under the Stockholm Convention was held in Beijing, China, from August 26 to 29. The seminar was co-hosted by the Secretariat of Rotterdam and Stockholm Conventions (Secretariat of the Three Conventions), and the Basel Convention Regional Center/the Stockholm Convention Regional Center for capacity-building and Technology Transfer for Asia and the Pacific (Asian-Pacific Center or APC) and held at SOE, THU. 33 representatives of different countries, the United Nations and Regional Centers attended the seminar.

SOE Prof. Li Jinhui, Executive Director of APC, and Ms. Jacqueline Alvarez, Secretary of the Secretariat of the Three Conventions attended the seminar and delivered opening addresses. During the seminar, the attendees learned a lot of things

through lectures and group exercises, including the characteristics and surveillance guidelines of the new persistent organic pollutants (POPs) added by the Stockholm Convention in 2009 and 2011. They also participated in training on the survey lists of the polybrominated diphenyl ethers (PBDEs) and perfluorinated octane sulfonate (PFOS). In addition, the attendees also took part in tours of an e-waste recycling plant of Huaxin Greening-China Co., Ltd., and the dioxin analysis laboratory at SOE, THU.



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## APC for Water Security Hosts “Urban Water Security Learning Week”

The “Urban Water Security Learning Week” was held by the Asian-Pacific Center (APC) for Water Security from September 16 to 20. Leaders of the Department of Overseas Projects and representatives of the Asian Development Bank (ADB) in China attended the opening ceremony and delivered speeches. Prof. Du Pengfei, Chairman of the SOE Council presided over the opening ceremony. More than 30 urban water security managers and academics from 9 different countries in APC attended the event.

During the “Learning Week”, lectures on experiences and cases related to China and worldwide urban water security management were given by experts and scholars from THU, ADB, the Foreign Cooperation Center at the Environmental Protection Ministry, the World Bank, the World Resource Institute, the Climate Group and the University of Queensland. The trainees exchanged the water security issues faced by their countries and discussed solutions to specific problems. In addition, they visited the water reuse system at THU and the wetlands at Beijing Olympic Park.

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## Prof. Li Jinhui Speaks at 2013 CGI Annual Meeting

The 2013 Clinton Global Initiative (CGI) Annual meeting was held in Manhattan, New York, from September 23 to 26. SOE Prof. Li Jinhui was invited to the meeting and delivered a keynote speech on “How to strive towards zero waste in the global supply chain” at a sub-forum. During his speech, Prof. Li Jinhui introduced the solid waste problems around the world and focused on the huge challenges caused by the industrial waste, electronic waste, kitchen waste and packaging waste.

Established in 2005 by the former US President Bill Clinton, the CGI convenes global leaders to create and implement innovative solutions to the world’s most pressing challenges. This year marks the 9th CGI Annual Meeting. The topics of the meeting covered the world environment, sustainable development, climate change, poverty alleviation, disaster reduction, health, education, and other fields. Of the 191 speakers at the meeting, there was former US President Clinton, current US President Obama, former U.S. Secretary of State Hillary Clinton, Founder of Microsoft Corporation, Bill Gates, etc. More than 4,000 experts and business elites were also present.



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## Tsinghua Environmental Forum Invites Experts from Worldwide

### **The 48<sup>th</sup> Session: An Integrative Approach to the Study of PM<sub>2.5</sub> Pollutants: Rationale, Instrumentation, Sources, Effects and Mitigation by Filtration**

Prof. David Y.H. Pui, Director of the Research Center of Filtration and Laboratory of Particle Technology from the University of Minnesota, USA, and former President of IAA (International Aerosol Association) attended the 48<sup>th</sup> Environmental Forum and delivered a speech on the morning of July 2, entitled, “An Integrative Approach to the Study of PM<sub>2.5</sub> Pollutants: Rationale, Instrumentation, Sources, Effects and Mitigation by Filtration”. SOE Prof. Jiang Jingkun presided over the forum. Around 30 faculty members and students were present.

During the lecture, Prof. Pui systematically introduced the origin and formation mechanism of PM<sub>2.5</sub> pollutants which refers to particulate matter of less than 2.5 $\mu$ m in aero-dynamic diameter. According to his research on the air quality in Xi’an, China, Prof. Pui pointed out that oil combustion and automobile emission are the main sources of PM<sub>2.5</sub> pollutants, as well as important locus of pollution control.

The negative effects of PM<sub>2.5</sub> pollution include a decrease in visibility and damage to human health. Long-term exposure to air high in PM<sub>2.5</sub> index will increase the incidence of cancer and fetal anomalies. Thus efforts to alleviate PM<sub>2.5</sub> pollution are warranted.

Prof. Pui discussed how filters are an important tool in the reduction of indoor and outdoor PM<sub>2.5</sub> concentrations and industrial particle emissions. He gave a brief introduction of the particulate filter models. In addition, he highlighted several filters, which are currently promoted by UNM Center for Filtration Research and have been widely applied in the China market. At the end of his speech, Prof. Pui shared his belief that with the joint efforts of the government, industry and academician, PM<sub>2.5</sub> pollution in China would be effectively brought under control.

### **The 49<sup>th</sup> Session: Business Water Risk -- Bridging the Physical and Financial**

Prof. Peter Adriaens, co-founder of Water Risk Analytics from the University of Michigan, USA, gave an academic speech on “Business Water Risk -- Bridging the Physical and Financial” to around 30 faculty members and students on the 49<sup>th</sup> Environmental Forum on September 13. Associate Prof. Shi Lei presided over the forum. Prof. Peter Adriaens proposed the concept of “business water risk” through the transformation

history of environmental policy regulation. He gave a general introduction about the distribution of global water risk, the categories of business water risks, and the decision-making framework for business water risk. At the end of his speech, Prof. Peter Adriaens elaborated on the assessment process of business water risks, taking U.S. energy resources (e.g. coal) as an example.

### The 50<sup>th</sup> Session: Fast Cellular Models for 1D/2D Flood Simulation

Prof. Dragan A. Savic, Academician of the Royal Academy of Engineering, from University of Exeter, Britain, was invited to the 50<sup>th</sup> Environmental Forum on September 16. He gave an academic speech on the “Fast Cellular Models for 1D/2D Flood Simulation”, which mainly covered the origin of flood stimulation and the application of 1D/2D models in flood simulation.

Prof. Savic introduced the cellular automata. The results of his research showed that the application of cellular automata in 1D models would achieve fast flood stimulation for sewer pipes and the results were rather accurate. Drainage flood modeling was quite in favor of urban flood prevention and rational urban planning. The modular cellular automata model could simulate the sewer systems effectively, but improvements are still needed to promote the model calculation time. Besides, the 2D cellular

model described the different states of surface flow in two dimension, so that it also performed quite well when used in flood simulation. Based on the integration of modern computer technology with numerical models, the cellular automata model software platform achieved the large number of operations of the models successfully.



## Vice President of the University of Queensland Visits SOE

A Delegation from the University of Queensland, Australia, led by their Vice President, Prof. Max Lu, visited THU on July 8, 2013. Prof. Du Pengfei, Chairman of SOE Council met with the visiting group.

They gave an introduction of both universities, as well as an overall introduction of SOE's history, faculty resources, academic settings and dominant research fields in THU and the University of Queensland. In addition to this, the two sides discussed future collaborative affairs and signed

a memorandum of cooperation, covering academic exchanges, collaborative research and other cooperation intentions at the field of Asia-Pacific regional water environment.

The first cooperation seminar was co-hosted by the University of Queensland and THU on July 9. Teachers and students of SOE exchanged ideas with four experts from the University of Queensland on the ongoing research projects through academic reports. After the seminar, a future cooperation program was preliminary established for the three following themes: the application of system thinking in the field of urban water research; groundwater and soil pollution; water-energy-carbon coupling relationship.

## 9 Students of GEP Shares Experiences at Environmental Protection Organization

Class meeting of Global Environment Program held at the SIEEB on September 21. Of all the professors who attended the meeting, there was Prof. Zuo Jian'e, Vice Dean of SOE, Prof. Wang Can, Director of GEIC, and Associate Prof. Yue Dongbei. Mr. Hua Yang, the Counselor of GEP, and 38 students were also present.

9 junior students from GEP took the internships at the Beijing offices of World Wildlife Fund (WWF), National Center for Climate Change Strategy and International Cooperation (NCSC), and World Resources Institute (WRI) for 5 weeks this summer. They shared their experiences and feelings in the meeting. Teachers and students who attended the meeting took part in discussions on the training programs, internship practices,

international exchanges, and other issues of GEP. Prof. Zuo Jian'e highly appreciated the achievements gained by the training. He expected the GEP students to take advantage in the field of international environmental issues and help the voice of China be heard.



## 2013 Commencement Ceremony of SOE International Summer School Held

The closing ceremony of the SOE International Summer School was held on the morning of August 29. 19 members from China, Japan, Iran, Russian and other countries, were awarded certificates at the ceremony. Prof. Shen Zhenjiang of Kanazawa University, Japan, and Prof. Zuo Jian'e, Vice Dean of SOE were present and delivered speeches.

The summer school lasted for 7 days, aiming at helping the trainees on professional knowledge and form a cultural identity. Members consisted

of international students and postgraduate students from THU and postgraduate students from Kanazawa University. Masters were invited to deliver speeches on the topics of water pollution, air pollution and solid waste, etc. Apart from lectures, the trainees also took part in tours of some environmental protection enterprises, including Beijing Origin Water Technology Co., Ltd., CSD (Beijing) Environmental Protection Co., Ltd., Jinan Sifon Environmental Protection & Bio-Energy Co., Ltd., etc.