DEPARTMENT OF ENVIRONMENTAL SCIENCE & ENGINEERING TSINGHUA UNIVERSITY

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News and Events

DESE Research Achievements Received Two State Science and Technology Awards



wo DESE research achievements were recognized at the 2009 State Science and Technology Awards. On January 11, the professors of DESE accepted the awards at the annual National Science-Technology Award Ceremony in the Great Hall of the People in Beiiina.

Chinese President HU Jintao, Premier WEN Jiabao, Standing Committee of the Political Bureau of the CPC Central Committee Member LI Changchun, Chinese Vice President XI Jinping, and Vice Premier LI Keqiang attended the ceremony. State Council Member LIU Yandong announced the State Council's decisions.

The Characteristics of Emission and Complex Pollution of Atmospheric Particulate Matter and its Precursors, primarily achieved by Professor HE Kebin, Academician HAO Jiming, and Dr. DUAN Fengkui, placed second in the State Natural Science Awards. Novel Low Energy-consuming Membrane Bioreactors for Wastewater Reuse and their Application,

100 Academic Activities Debut to Mark Centennial Celebration Year **Professor QIAN Yi Led the First Forum**

On the morning of April 25, the first forum of "100-Academic-Activities" was held in the Main Building of Tsinghua University, marking the official launch of a series of academic activities for the centennial celebration of Tsinghua University. President GU Binglin attended the forum and addressed the open ceremony, which was chaired by Professor KANG Kejun, the Vice

President of Tsinghua University and deputy director of the Centennial Celebration Organizing Committee. Professor QIAN Yi of DESE, Director of Academic Committee of Tsinghua University, academician of Chinese Academy of Engineering was invited to deliver a keynote speech titled "A hundred years' struggle for revitalizing scientific culture".

primarily achieved by Professor HUANG Xia, WEN Xi-

anghua, and WANG Chengwen, placed second in the

Tsinghua's research achievements rank first in total

achievements among Chinese universities. Of Tsin-

ghua's 21 awards, two were State Natural Science

Awards, three were State Technological Invention

Awards, and sixteen were State Scientific and Tech-

nological Progress Awards. Altogether, Tsinghua had

completed eight research achievements as the lead

By the end of 2009, Tsinghua was awarded a total of

400 National Science and Technology Awards, includ-

ing 43 National Natural Science Awards, 114 National

Technological Invention Awards, and 243 National Sci-

就到学校

证书

项目名称: 大气颗粒物风柔资体物接收与复合 冷麦特征

粮发此证书,

关始等级:二年

目 花 方、 家主政(清集之学)

〒北导, 2009-2-104-2-02-W

为表影国家自然科学奖获得者,特

research institution in collaboration with others.

entific and Technological Progress Awards.

国家科学技术进步奖

证书

为表彰国家科学技术还步英获得者。

用目名称: 铁盐和这一生物及点器许水资源的 和技术与工程原则

特相定此证书。

然幼节禄,二年 我 死 书, 贵 茂

· 正书号: 2009-J-211-2-02-8

State Scientific and Technological Progress Awards.



The Anniversary Celebration of Tsinghua University and DESE



On April 25, Tsinghua University celebrated its 99th anniversary. This day was also when the Tsinghua University Centenary Year kicked off, which marked the beginning of an exciting next twelve months. The anniversary celebration gathered more than 200 alumni from around the country and many other parts of the world for a weekend reunion. The celebration took place in Sino-Italian Energy and Environment Building (SIEEB) amid a heated atmosphere, all the alumni recalled their past days of campus life, expressed their strong yearnings toward alma mater, and

gratitude to their mentors.

Dean YU Gang of DESE and Chairman DU Pengfei of Department Council extended their welcome and thanks to returning alumni for their contributions to alma mater, introduced the rapid development of DESE in recent years, and shared their future plans. They noted DESE



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In her speech. Professor QIAN recalled Tsinghua's scientific research achievements and its pursuit of truth in different historical periods. She also introduced important research achievements of Tsinghua alumni. With confidence for the future. QIAN encouraged young scientists to forge ahead in contributing to the rejuvenation of China.

Present at the forum were representatives from teachers, students, and alumni of Tsinghua, and also students from five high schools.

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had been providing technological service, theoretical support, and decision support for the country through its great scientific and research achievements in solving important environmental problems and implementing the strategy of sustainable development; DESE highly valued the alumni's opinions

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and suggestions on future development, expecting continuous attention and constructive suggestions for DESE's further development.

The event was highlighted by a series of activities such as donation ceremonies, campus tours, symposiums, and group photo-takings.

After the ceremony, CHEN Jining and CHEN Liang-

gang further discussed the current situation and future

development of the water purifying industry in China.

A Distinguished Alumnus Donated Encouragement Scholarship Award for DESE

ment of the donation.

On Tsinghua's 99th anniversary celebration, alumnus CHEN Lianggang, Chairman of Shenzhen Litree Purifying Technology Co., Ltd., donated a total of 1 million RMB (100,000 RMB per year) to the "Litree Encouragement Scholarship Award" for DESE as a tribute to his alma mater. The scholarship was purposed to support DESE's outstanding students in need of financial aid.

The launching ceremony of the scholarship was held at SIEEB on April 24. Executive Vice President CHEN Jining of Tsinghua University, Vice Chairman SHI Zongkai of the University Council, Secretary-General GUO Liang of Tsinghua Alumnus Association, Dean YU Gang of DESE, and Chairman DU Pengfei of Department Counci attended the ceremony. CHEN Lianggang, GUO Liang, and DU Pengfei signed the agree-



Technology Innovation Alliance for Municipal Centralized Biomass Gas Established

On the morning of March 27, Technology Innovation Alliance for Municipal Centralized Biomass Gas (hereinafter referred to as the Alliance) was established in Tsinghua University under the support of Ministry of Science and Technology (MOST) and Beijing Municipal Science & Technology Commission. The Alliance is co-sponsored by Tsinghua University and 21 excellent universities, scientific research institutes and enterprises. Professor CHEN Jining, Executive Vice President of Tsinghua, and TIAN Baoguo, Deputy Director-General of MOST Department of Social Development unveiled the Alliance and delivered a speech. Professor HAO Jiming of DESE, Academician of CAE, attended and addressed the meeting, which was presided over by Dean YU Gang of DESE.

Municipal centralized biomass gas industry is an emerging strategic industry that converts large amounts of biomass waste from urban living sources and industry sources into high-class clean energy



through advanced energy resource technologies for the purpose of reducing the emission of pollutants and greenhouse gas, and improving the reusable resources. The Alliance aims at promoting the development of biomass gas industry and implementing the national biomass gas strategy through integrating science and technology innovation resources and cultivating industrial frameworks.

The 3rd China Environmental Investment Conference Successfully Completed at DESE



From March 25 to 26, the 3rd China Environmental Investment Conference was held at DESE. A total of 259 representatives from more than 170 organizations attended the Conference. These organizations covered the traditional fields of pollution control and environmental investment, and also covered new areas, such as insurance, stock, law, consultation, research, development zones, and etc.

During the conference, WANG Yuqing, Deputy Director of the Committee of Population, Resources and Environment of CPPCC, delivered a keynote speech entitled "To Analyze the Hot Topics of Environmental Protection and New Trend of Environmental Investment in China from the Proposals of the 'Two Conferences' in 2010". JIA Jinhu, Chief of General Office of the Department of Finance and Planning of the Ministry of Environmental Protection, shared the budget and the focus of China's environmental investment in 2010.

Several hot topics were debated by experts amongst top company officials, including waste treatment, sewage sludge disposal, environmental remediation, environmental finance, international cooperation, and low carbon economy. CHANG Miao, Director of the Environmental Management and Policy Division of DESE, gave a speech on "Industry Chain, Project Model and Market Prospect of Urban Sewage Treatment in China". As honored guests,

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The Alliance is the first technology innovation strategic alliance initiated by a university in China.

Professor WANG Wei and WANG Kaijun of DESE commented on waste and sewage sludge treatment, and prospected the future trend of environmental marketing and industry in the coming year. The awards ceremony of the 2nd (2009) China Environmental Investment Institutions and Environmental Enterprises Competition was also held in the conference. 25 active institutions and 2 outstanding individuals were granted the awards by ZHANG Kunmin. Vice President of Chinese Sustainable Development Research Association and Professor of DESE, and Dean YU Gang of DESE.

The conference was initiated by the Division of Environmental Management and Policy of DESE, China Environmental Investment Union, and China Environmental Investment Website. It received much attention and support from numerous environmental companies and investment agencies, such as International Finance Corporation (IFC), Tsing Capital, Mitsubishi Corporation, SINOCHEM International Tendering Co., Ltd., Hach Company, BCEG Environment Development Co., Ltd., and etc.

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2010 Strategic Forum on Urban Water Sector held in Beijing

he 8th Strategic Forum on Urban Water Sector, co-sponsored by DESE, Tsinghua University and China Water Net, was held on April 2 in Beijing. More than 800 representatives, who participated in the forum, were engaged in finance, law, and consulting businesses for urban water from various agencies, including governments, international financial organizations, investment enterprises, and waterrelated companies and institutions.



Focusing on "Embracing the Coming Era for Urban Water Sector", the forum was composed of six parts, "Policy and Planning on Development of Water Sector", "Review and Discovery on Water Supply Reform", "Reform on Water Price and Social Communication". "Strategic Tendency and Investment & Financing", "Ceremony for Annual Award in Water Sector", and "CEO Forum: Practice of Sector Development-Addressing the Challenges in Development of Water Industry".

During the forum, WU Shunze, Vice President of the Chinese Academy for Environmental Planning, and ZHANG Linwei, Director of the Water Utility Division of the Ministry of Housing and Urban-Rural Development, were invited to comment on the planning of environmental protection and the urban water sector in the 12th "Five-Year Plan". ZHAO Hualin, Director General of the Department of Total Control of Pollution Discharge of the Ministry of Environmental Protection, introduced the achievement and institutional security of reducing solid waste discharge, and gave his analysis on the target of emission reduction defined in the 12th "Five-Year-Plan".

Additionally, faculty members of DESE were invited to the forum, including Dr. DU Pengfei, Chairman of Department Council, Professor WANG Chengwen, Deputy Dean of DESE, and Dr. FU Tao, Chief of Research Center for Water Policy, DESE. Dr. DU Pengfei was the Chairman for "Strategy Trend and Investment & Financing", and Dr. FU Tao was the Chairman for "Industry Development Policy and Plan" and delivered a keynote speech on "Policies on Urban Water Sector and Water Market Behavior".

This forum was supported by many international organizations and enterprises, including World Bank, International Water Association (IWA), China Water Investment Corporation, Suez Environnement, Veolia Water, and etc.

Strategic Forum on Urban Water Sector is a nationwide forum, and has become central to the China water sector

The Characteristics of Emission and Complex Pollution of **Atmospheric Particulate Matter and its Precursors**

n addition to the rapid development of the economy, urbanization, and industrialization, the emission of pollutants continues to rise in China. The characteristic of air pollution in China has changed from the single coal combustion type to the mixed type of coal burninvestigating the chemical speciation of carbonaceous fraction of PM in Beijing, presenting the qualitative and quantitative evidences of secondary organic aerosol (SOA) in winter in Beijing; estimating total anthropogenic emissions of NOx in China during the past two decades

ing and vehicle. Over the past two decades. there has been limited research that focused on atmospheric particulate pollution in China. Although insights on the particulate pollution status have been reported, most of the researches were based on either short-term or discrete measurements and had

significant limitations to

study its chemical composition and the formation mechanism of some key species. Thus, it is important to understand the characteristics of combined PM pollution on the background of complex emission sources and high-level pollutants in China.

In view of above, Prof. HE Kebin and Prof. HAO Jiming lead their group to reveal the characteristics of emission and complex pollution of atmospheric particulate matter and its precursors since 1996. Based on long-term and continuous filed measurements, as well as modeling, they have achieved fruitful results as follows: revealing the characteristics of water-soluble ions in PM2.5, as well as the different sources and formation mechanisms found in different regions, seasons and pollutant concentration levels;



on the basis of commercial energy consumption and NOx emission factors of different sectors and fuel types.

From their study, about 128 papers have been published in peer-reviewed journals in the past decade, with a total citation of more than 1800 times. Among their published papers in SCI journals, the highest citation for the single paper is 230 times, including 198 times cited by other researchers. The peer reviews and evaluations are outlined below

1. About the characteristics of total chemical components of PM:

The research results of this aspect have drawn wide attentions and interests of the international and domestic peers, and have been cited positively by more than 60 SCI

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iournals covering more than 40 research fields, such as Atmospheric Chemistry and Physics (ACP), Journal of Geophysical Research-Atmospheres (JGR), Atmospheric Environment (AE) in Geosciences field, as well as Environmental Science & Technology (ES&T) in

Environmental Science field. Several papers have been listed as the highly cited papers by the database of ISI Web of Knowledge (http:// esi.isiknowledge.com/).

One of their papers titled "The Characteristics of PM2.5 in Beijing, China"(AE, 4959-4970,2001), reported for the first time of the comprehensive charac-

teristics of PM2.5 concentration and its chemical compositions in China. This paper has been evaluated as the "original work" by the international peers, and been cited 230 times. In the database of ISI Web of Knowledge, it has been listed as the top 30% of the 2569 highly cited papers in the Geosciences field for the recent 10 years (Jan. 1997-Oct. 2007), and the No. 15 among the 66 highly cited papers of the journal of AE. It was also listed as one of the highly cited papers by Elsevier in 2004.

Prof. Molina, the Nobel Prize winner of Chemistry in 1995, has cited positively 4 papers of this project related air pollution in Beijing in his critical review titled "Megacities and atmospheric pollution" on Journal of the Air & Waste Management

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Association(JAWMA), and listed them as the typical studies of air pollution in global megacities.

Dr. T. Novakov, the scientist of Lawrence Berkeley National Laboratory, USA, has cited the OC/EC results in four seasons of their work in his JGR paper published in 2005, and considered that their results based field monitoring were in good agreement with what calculated from the famous international emission inventory.

2. About the emission of PM precursors:

The research results of the PM precursors published in ES&T and AE have widely and highly recognized by the international peers. They contacted with Prof. HE and Prof. HAO positively and have carried out a series of cooperative researches. For instance:

D.G. Streets and G.R. Carmichael, the well known scientists of emission inventory and model simulation, have published several papers related to PM emission together with this project's achievers in some top journals such as JGR, AE. Among these papers, the one about air quality of 2008 Olympic Games in Beijing has been listed as the top 5 highly downloaded papers and has been introduced by Science.

Their successive work "NOx emission trends for China, 1995-2004: The view from the ground and the view from space" published in JGR (2008), co-authored by J.P. Burrows, one of the authors of "Increase in tropospheric nitrogen dioxide over China observed from space" published in Nature(2005), has been highly evaluated by the reviewers, and considered that "the

manuscript is significant for its insight into trends in Chinese emissions", and "the bottom-up inventory allows a very detailed look at the factors influencing the trends. This is an excellent study with significant new results."

The related results were adopted by the "Air Quality Assurance Program of the 29th Olympic Games" and approved for implementation by the State Council of China. The report of environmental assessment on the Olympic Games in Beijing by UNEP considered the air quality during the whole process to have reached standard quality, with top air quality for half of the time. The concentration of fine SO42- decreased by 50% compared to the concentration during same period of last year.

This study, named "The Characteristics of Emission and Complex Pollution of Atmospheric Particulate Matter and its Precursors" (Achieved by HE Kebin, HAO Jiming, DUAN Fengkui, et al.), won 2nd Prize at The State Natural Science Awards in 2009.



Figure 2. Long-term trend of PM2.5 concentrations in multi sampling sites in Beijing

Energy Efficient Membrane Bioreactor: A Novel Approach to Wastewater Reclamation

Mastewater reclamation is a promising approach to the amelioration of water pollution and water scarcity. Membrane bioreactor (MBR), an innovative combination of membrane filtration and biological process, is one of the most attractive technologies in this regard. MBR excels in producing stable and directly reclaimable effluent water, and is endowed with properties such as small foot-print and low sludge production, which are favorable for wastewater treatment. In the past 15 years, this technology has received increasing

attention and achieved significant progress on academic research and commercial application in China. However, a significant drawback worthy of mentioning is that MBR is largely energy-consuming, which is mainly due to the fouling of membrane by the sludge system during operation. Thus, it is important that energy efficient MBRs be developed for greater sustainable wastewater reclamation. In view of this, Professor HUANG Xia and her colleagues have made concerted efforts over the past decade, with the achievements

outlined below:

1. A novel configuration of MBR was proposed with an innovative structure such as fluidized bed and favorable flow pattern. The combination system of this MBR with an air-sparging hollow fiber membrane module is advanced in anti-fouling property. Further concepts were put forward on economical aeration intensity and sub-critical flux, which acted prominently in reducing energy consumption and mitigating membrane fouling caused by sludge flocs. The energy consumed by aeration for membrane modules





Fig.1 Relationship between apparent fouling rate (kR) with (a) colloidal organic carbon (COC) and (b) soluble organic carbon SOC.

was reduced by 30-40% compared to conventional MBR.

2. The fouling propensities of activated sludge mixed liquors were systematically investigated by taking numerous mixed liquor samples from pilot scale MBR or full scale MBR plants. The results indicated that colloidal and dissolved fractions in the supernatant of mixed liquor significantly contributed to membrane fouling (Fig.1), which should have been reduced through adjusting the mixed liquor property. Dosing coagulant and oxidant were thus proposed to decrease the fouling propensity of the mixed liquor. In dosing coagulant, polymeric ferric sulfate was found most effective for improving membrane filterability of the mixed liquor in MBR. The cleaning period of MBR could be doubled at a dosing internal of 15 to 30 d during the long-term operation of MBR. Use of ozonation to mitigate the fouling was also creatively proposed. Membrane fouling could be remarkably depressed and the cleaning period could be prolonged by 2 to 3 times when intermittently dosing ozone to the mixed liquor at a dosage interval as low as 0.25 mg-O3/g-SS per day in a long-term MBR.

3. The foulants attached to the membrane surface were identified and the on-line cleaning technique was investigated. NaCIO could remove the organic foulants and microorganisms while citric acid could remove metallic foulants. The on-line cleaning modes, including cleaning frequency and cleaning agency concentration and amount were optimized, which have been proved effective in keeping stable operation of full scale MBR plants.

4. Concerning the various wastewater types and different purposes of reclaimed water, several novel MBR-based combination processes

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have been developed, such as enhanced nitrogen and phosphorus removal MBR process, anaerobic pre-treatment MBR process, and etc. These processes have been applied to engineering applications of different wastewater.

Based on the above, several innovations have been made in this project with 14 patents granted for their inventions. Furthermore, the developed MBR technology has been widely used in municipal and industrial wastewater treatment and reclamation, strongly supporting the design and construction of the first large-scale MBR project for municipal wastewater treatment with daily design capacity of 45,000 tons in Asia (Beijing Miyun MBR plant, Fig.2), which was a landmark of MBR application in China. Nowadays, there are more than 200 MBR projects of different scales set up, which have created remarkable environmental, social, and economic benefits. In the future, it is believed that the MBR process will take on greater importance. "Novel Low Energy-consuming Membrane Bioreactors for Wastewater Reuse and their Application" was awarded 2nd Prize at the State Science and Technology Progress Awards in 2009.



Fig. 2. View of Beijing Miyun MBR plant for municipal wastewater treatment (design capacity: 45,000 m3/d)

International Cooperation

Europe-China Clean Energy Center Inaugurated



On the morning of April 30, the opening ceremony of the Europe-China Clean Energy Center was held at DESE. Mr. Jose Manuel Barroso. President of the European Union Commission, and Mr. ZHANG Guobao, Director of the National Energy Administration and Vice-Minister of the State Development and Reform Commission, unveiled the plaque of the Center and addressed the audience. Ms. Prestigiacomo, Italian Minister for the Environment, Land, and Sea; Mr. Oettinger, European Commissioner for Energy; Ms. Hedegaard, European Commissioner for Climate Action; Mr. Serge ABOU, EU Ambassador to China; Professor Profumo, President of Politecnico Di Torino of Italy; Mr. CUI Tiankai, Chinese Vice Minister of Foreign Affairs; Mr. SONG Zhe, Ambassador of Chinese Commission to the European attended the ceremony, all extended their congratulations to the Center.

The EU-China Clean Energy Centre (EC2) is a project managed by a Consortium led by Politecnico di Torino and supported by the European Union and the Italian Ministry for the Environment, Land, and Sea, The Consortium is composed of 6 institutions in EU and 3 institutions in China, with EC2 to be located at SIEEB,

EC2's objective was to promote an increased usage of clean energy in China and to support the Chinese Government's efforts to create a more sustainable, environmentally friendly and efficient energy sector.

EC2 will act as a hub of excellence, providing support to both Chinese and European energy sector key players.

Prior to the opening ceremony, a formal meeting was held between Mr. ZHANG Guobao and Mr. Barroso. Both sides expressed the will of promoting Sino-EU cooperation in the field of clean energy.

After the ceremony, Mr. Barroso delivered a speech on "peoples of yesterday, peoples of tomorrow: 35 years of EU-China relations" at Tsinghua's Main Building.

During his speech, Mr. Barroso expressed his hopes that further cooperation between the EU and China will continue to be strong for another 35 years. Specifically, he hoped that the EU and China could further improve cooperation to address global challenges, including the current economic crisis, climate change, and renewable energy.



DESE Welcomed the Delegation of Environmental Science Professors from Taiwan

rom March 23 to 25, a 5-member delegation of DU Pengfei of Department Council met with the del-Taiwanese environmental professors visited DESE. Professor QIAN Yi, Professor HAO Jiming, Academicians of CAE, Dean YU Gang of DESE, and Chairman

egation, which was composed of Professor WU Xianqi, Head of Environmental Engineering Institute of Taiwan University, Professor JIANG Benji, Director-General



of Taiwan Environment Engineering Academy, Professor GU Yang of National Taiwan University of Science and Technology, Professor WANG Zhufang of National Tsinghua, HsinChu, and Professor ZHANG Yiyi of Taipei Medical University.

During the meeting, Professor YU Gang and Professor DU Pengfei introduced in detail the development of DESE in terms of talent cultivation, science research, social service, and team building. Direc-

tors of DESE's Division of Drinking Water Safety, Division of Groundwater and Soil Environment. Division of Environmental Engineering Design, Division of Environmental Chemistry, and Division of Environmental System Analysis introduced their research directions and major projects.

During the three day visit, the delegation conducted various forms of discussion and exchange activities with faculty members and students of DESE. Both sides of the discussion exchanged views on the teaching and scientific research conditions of the two sides of the Straits, and actively discussed the potential opportunities to substantially improve the cooperation on teach-

Director of Earth, Energy, and Environment of Microsoft External Research Visited DESE



 O_{-}^{n} the afternoon of March 26, Professor YU Gang, Dean of DESE, met with Mr. Dan Fay, visiting Director of Earth, Energy and Environment of Microsoft External Research, and Mr. GUAN Gang, University Relations Manager of Microsoft Research Asia. During the meeting, Professor YU Gang

water supply and drainage system simulation. They expressed their desire for further cooperation to address some environmental problems of mutual concern.

After the meeting, Mr. Dan Fay was invited to deliver a speech for DESE's students. During his

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ing and research. The delegates were also invited to give keynote presentations, introducing the latest achievements in their fields of reservoir nitrogen and phosphorus formation mechanism and control technology, monitoring and control technology of emerging contaminants in drinking water, physical and chemical property analysis and control of air suspended particles, reduction technology of greenhouse gas, and management strategy of rivers and streams.



introduced to the guests the major ongoing research projects of DESE. Both parties reviewed the scientific cooperation in water quality monitoring sensor and urban

speech entitled "EScience - When Computing Meets Environmental and Earth Sciences", Fay delivered a clear introduction on the application of computer technologies in the area of environmental research.



International Cooperation

Sino-German Workshop on Detection and Elimination of Organic Micropollutants for Improved Protection of the Aquatic Environment Held

rom April 15 to 17, the Sino-German Workshop on Detection and Elimination of Organic Micropollutants for Improved Protection of the Aquatic Environment was held at the Sino-German Center for Research Promotion. Organized by POPs Research Center (PRC) of Tsinghua University and the Institute for Environmental Engineering (ISA) of RWTH Aachen University, the workshop was co-chaired by Professor YU Gang, Director of RCP and Dean of DESE, Tsinghua University, and Professor Johannes Pinnekamp, Director of ISA, RWTH Aachen University.

The three day workshop included more than 30 representatives from both Chinese and German universities and institutes, such as Tsinghua University, Nankai University, Shanghai Jiao Tong University, and RWTH Aachen University, Frankfurt University of Applied Sciences, Stuttgart University, and etc. Sixteen keynote reports were presented, focusing on indicator & limit

value, detection methods, fate of trace pollutants, treatment technologies, operational practice, and case studies.

The workshop provided an excellent platform for experts from the two countries to strengthen exchange and communication to lay a solid foundation for future extensive cooperation.



Student Development

DESE Defended Women Group Championship at MA Yuehan Cup Sports Meeting

The 53th MA Yuehan Cup Sports Meeting of Tsinghua University closed on April 25 after a year-long competition. Girls from DESE defended the women group championship again at the meeting, being a consecutive winner since 2005. DESE also won the second place of MA Yuehan Cup in Group B. In addition, DESE came out first in a range of games, including basketball (female), swimming, as well as the women track and field

competition.

Ma Yuehan Cup is named after Professor Ma Yuehan, who has made great contribution in building the sports culture of Tsinghua University. It has become an important part of campus culture of Tsinghua University, and enjoys a high popularity among Tsinghua students.

Japanese Friendly Youth Delegation Visited DESE

n the afternoon of March 22, Professor HU Hongying, Deputy Dean of DESE, gave a warm welcoming to the environmental branch of Japanese Friendly Youth Delegation and conversed with them. He introduced the development of DESE in terms of teaching and research, as well as the cooperation with Japanese partners. He also gave a keynote speech on the current water pollution in China and the environmental cooperation between China and Japan.

DESE, Executive Vice President of the Student Green Association (SGA) of Tsinghua University, introduced to her Japanese peers the development concepts and major activities of the Student Green Association. DIAO Zhouwei, member of the International Affairs Department of Student Union introduced the preparatory activities of International Youth Summit on Energy and Climate Change (IYSECC), which will be co-hosted by SGA and two other student organizations on July 12 to 14 in Shanghai.

In the students' communication process, KUANG Jiangmeng of

Found in 1995, SGA is one of the

The 5th Tsinghua Environmental-friendly Science & Technology Competition Kicked off

On April 21, the 5th Tsinghua Environmental-friendly Science & Technology Competition kicked off at DESE. This competition was coorganized by Tsinghua University, Tongii University, and Xi'An University of Architecture and Technology, and sponsored by Hach Company.

Professor HAN Jingyang, Vice Chairman of Tsinghua University Council, addressed the opening ceremony.

The competition aimed at advocate ing the concepts of energy conservation and environmental protection.





Student Development

earliest student associations for environmental protection in China. SGA is committed to publicize the idea of sustainable development and raise the public awareness of environmental protection. They have continuously played an active role in the process of creating a green university building of Tsinghua through extensive programs to reduce emissions, conserve energy, and recycle waste materials on campus. Owing much to their outstanding work, SGA has won several university, national, and international awards.

as well as encouraging university students to participate in the construction of energy-saving and environmentally-friendly society with innovative technological ideas.

This year's competition has received 162 creative works from 43 universities nationwide, setting a record in terms of the number of both participating universities and entries. The results of the competition will be released in September and an award ceremony will be held.

Initiated in 2006, the competition has grown into an important platform for the innovative cultivation of talents in Tsinghua University. Since 2008, it has become one of the seven five-star competitions of Tsinghua University, and is gaining an increasing amount of popularity.