

Greetings from the President



This is probably the busiest time of your entire semester, but the good news is that the Thanksgiving break is just around the corner and it is time to check out the progresses made by other CAPEES colleagues. In this

issue I am pleased to introduce four distinguished CAPEES members, Dr. Tao Yan (严涛) at Hawaii, Dr. Ming Xu (徐明) at Michigan, Dr. Bate Bate (巴特) at Missouri S&T, and Dr. Qin Qian (钱琴) at Lamar University, TX. They cover a wide variety of research area, from biological systems, pollutant fate and transport, soil remediation, environmental sustainability, to environmental policy.

Over the summer we conducted a short survey among our members, to find common interests and better ways for officers to serve our organization. The survey results are included in this newsletter. These data are useful for better organizing our conference gatherings and other activities to promote member collaborations.

Lastly, I want to share a beautiful picture I took on Dujiangyan (都江堰) built over 2000 years ago. It is still in operation today. I am totally



shocked by the wisdom and the accomplishments our ancestors made. This is truly the type sustainable infrastructure we should pursue.

Jianmin Wang/王建民

Member and Society News

CAPEES Members Visited Universities and Presented at The 8th International Conference on Sustainable Water Environment (第八届可持续水环境国际会议)

CAPEES co-sponsored the 8th International Conference on Sustainable Water Environment held in Guilin, China in July 17-19th. CAPEES members also visited Chongqing University (重庆大学), Guilin University of Technology (桂林理工大学), and Xi'an University of Architecture and Technology (西安建筑科技大学) and hosted various workshops. Group members who made the trip included Prof. C.P. Huang (University of Delaware), Prof. Yuefeng Xie (Penn State), Prof. Jianmin Wang (Missouri S&T), Prof. Tao Yan (Hawaii), Prof. Xingmao Ma (Southern Illinois University – Carbondale), and Prof. Zhiyong Ren (University of Colorado – Denver). All these members presented in the 8th International Conference on Sustainable Water Environment. This trip was partly supported through a Chunhui Program (春晖计划), the Ministry of Education, China.

CAPEES Members Visited Lanzhou University

A group of CAPEES members and environmental microbiologists visited Lanzhou University in Summer 2012 as a Chunhui Program (春晖计划) delegation sponsored by the Ministry of Education, China. The delegation was led by Dr. Jizhong Zhou (U. of Oklahoma) and consisted of other eight members from different universities and companies in the US: Feixia Qi (U. of Oklahoma), Chuanlun Zhang (U. of Georgia), Xu Li (U. of Nebraska), Zhiyong Ren (U. of Colorado), Qiang He (U. of Tennessee), Zhili He (U. of Oklahoma), Chuanwu Xi (U. of Michigan) and Zhijun Zhang (Sanofi). Each member presented their recent research and discussed with faculty and students at the workshop "Environmental Microbiology and Biomass Energy" organized by Professor Xiangkai Li at Lanzhou University. In addition, Drs. Qi, He Q. and Xi also shared their experiences with a group student from 16 top universities in China participating in the Experimental Program for

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Training Exceptional Undergraduate Students in Basic Sciences.



Dr. Yuefeng Xie Elected IWA Fellow

Yuefeng Xie, Professor of Environmental Engineering at The Pennsylvania State University, has been elected a fellow of International Water Association (IWA). IWA Fellows are “an elite group of global water professionals with international recognition and renown for their guidance and leadership in the world of water science, technology and management as it continues to evolve”. A total of 130 members have been elected as IWA fellows since the Fellows Programme was instituted in 2010.



Xie, founding president of Chinese-American Professors in Environmental Engineering and Science (CAPEES), is internationally known for his work in disinfection byproduct analysis and control, small water systems and professional training. He has won several national and international awards, including Fulbright Visiting Research Chair at University of Lethbridge in Canada and “Thousand Talents Program” Chair Professorship at Tsinghua University in China.

Dr. Chuanwu Xi promoted to Associate Professor and published featured study

Dr. Chuanwu Xi was promoted to associate professor of environmental health sciences with tenure at the University Of Michigan School Of Public Health in May 2012.

A feature story was published by the Scientist on one of my recent papers "Pinto AJ, Xi C, Raskin L., Bacterial community structure in the drinking water microbiome is governed by filtration processes. *Environ Sci Technol.* 2012 Aug 21;46(16):8851-9" (<http://the-scientist.com/2012/08/09/drinking-better-bacteria/>)

Dr. Zhiyong Ren Named Sustainability Center Director and Received NSF Grant

Dr. Zhiyong (Jason) Ren, assistant professor at University of Colorado Denver, recently named as the Director of the Center for Sustainable Infrastructure Systems (CSIS), an engineering school based, university wide multidisciplinary center focusing on the development, analysis, and rapid diffusion of sustainable urban infrastructures of the future.

Dr. Ren was also recently awarded a three-year NSF grant entitled “Understanding the Niche of Bio-electrochemical Systems for Water and Energy Sustainability”. The goal of this project is to use a systems approach to characterize and evaluate the unique features of this emerging technology to facilitate its transformation to a viable solution for environmental applications.

CAPEES Members Received Department of Interior Grant

A collaborative project between CAPEES member Samuel Ma, an associate professor at Southern Illinois University Carbondale and Yang Deng, an assistant professor at Montclair State University was recently funded by the Department of Interior through its Office of Surface Mining. The two year grant will explore more sustainable and plant-based technologies to restore the discarded mining sites in Southern Illinois. Two other researchers from NJ and MI are also in the research team.

Dr. Jianpeng Zhou Received USEPA Grant

Dr. Jianpeng Zhou, Associate Professor and Chair of Civil Engineering Department at Southern Illinois University Edwardsville recently received a grant from the USEPA Urban Water Program. This is one of the 46 funded projects among nearly 600 proposals submitted to USEPA nationwide. Dr. Zhou and his team, through a partnership with a

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wastewater and stormwater utility, a city government, and a community organization, are to evaluate the effectiveness of green infrastructures for combined sewer overflow reduction. The project, also including a public outreach component, is linked to the on-going initiatives on green infrastructures, urban revitalization and development, and sustainability planning in St. Louis.

Dr. Judy Zhang Received NSF Grant

Dr. Huichun (Judy) Zhang at the Temple University has recently been awarded one NSF grant entitled "Impact of Interactions between Metal Oxides to Redox Reactivity of Iron and Manganese Oxides". This three-year project will investigate complex model systems containing binary oxide mixtures to resemble soil-water environments. The goal is to understand the fate of emerging contaminants in the environment for assessing their potential risks to ecological systems. Specifically, this study examines the nature of interactions within binary oxide mixtures and how the interactions affect the redox activity of iron and manganese oxides."

Upcoming Conferences

2013 AEESP 50th Anniversary Conference

The 2013 AEESP Conference will be held on July 14-16, 2013, with the theme of Environmental Engineers and Scientists 2050: Education, Research, and Practice. The Conference will be a joint effort of the Colorado School of Mines, the University of Colorado - Boulder, and the University of Colorado - Denver, and will be hosted at the Colorado School of Mines in Golden, CO. The Conference will provide an environment in which AEESP, as a community, can assess environmental challenges, highlight recent advances, identify emerging issues, and rethink the educational requirements for the environmental professional of 2050. Target for workshop submittals is December 2012 and January/February 2013 for abstracts. A later deadline will be provided for student poster submissions, to allow for the submission of late-breaking research by students. For more information about the

Conference, please visit:
<http://aeesp2013.csmospace.com/>

2013 ACS National Spring Meetings

The 2013 American Chemical Society (ACS) 245th National Meeting & Exposition Spring Meeting will be held in New Orleans, Louisiana April, 7-11, 2013. The conference theme is Chemistry of Energy & Food. In addition to the national meetings, ACS holds many regional meetings and technical divisional meetings which could be interesting to CAPEES members. Detailed information on the upcoming conferences organized by ACS can be found through the following link:

<http://portal.acs.org/portal/acs/corg/content>

2013 WEFTEC National Conferences

The 86th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC 2013) will be held on Oct. 5-9, 2013 at McCormick Place, Chicago, IL. The deadline for abstract submission is Dec. 3, 2012. WEF will also sponsor several national and international conferences year around, and details can be found at <http://www.wef.org/conferences>.

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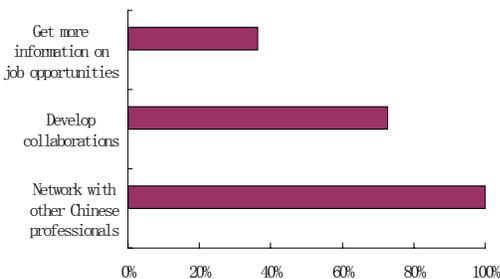
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Preliminary Results of CAPEES Survey

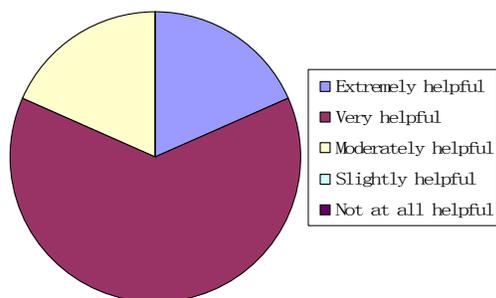
To better serve the CAPEES community, we conducted a short survey, which includes questions ranging from the information of the member to members' expectations on CAPEES activities. We received all 11 responses so far, and below we summarize the results for your information. We continue to welcome your inputs on the questions and suggestions to make CAPEES your favorite organization.

Among the 11 members who responded the survey, 36% were professors and associate professors, 55% were assistant professors, and 9% were graduate students. Around 82% of the responded members were from the United States, while 18% were from China. Regarding to CAPEES and its activities, the following graphs demonstrate the responses of the questions:

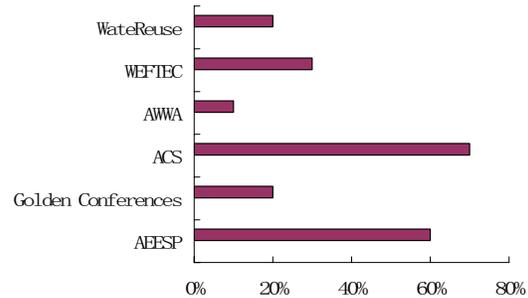
1. You joined CAPEES because you want to



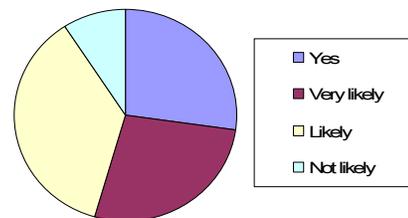
2. Have you found CAPEES helpful in your career development?



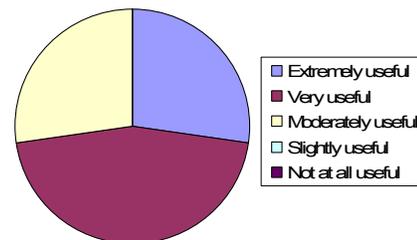
3. What major conferences do you attend?



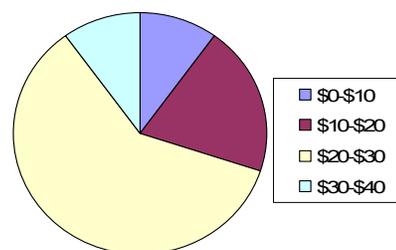
4. Will you participate if CAPEES organize a meeting/workshop on international collaboration?



5. Have you found the newsletter useful?



6. What is your comfortable level of CAPEES membership fee?



7. What activities do you wish CAPEES use the money for (open question)

- Answers Include:
- Print brochures, Support travel, Set up awards,
 - CAPEES Developmental Work
 - Promote interactions between members

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Featured Member of the Issue

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1. My career path

I received my B.S. in Environmental Engineering from Wuhan University of Technology (1997), and my M.S. in Municipal Engineering from Tsinghua University (2000). After four years at the University of Minnesota, I graduated with a PhD in Civil Engineering (2004). I also did a three-year postdoctoral training at the Biotechnology Institute of the University of Minnesota. I started my current job at the University of Hawaii in 2007.

2. My current interests and projects

My research is in the general area of water quality and environmental biotechnology, with focused interests in water quality protection, waterborne pathogens, water reuse, and water infrastructure sustainability.

Currently there are three active projects ongoing in my lab. In one project funded by the U.S.-Israel Binational Science Foundation, we are studying the effects of residual antibiotics in reclaimed water for irrigation on soil antibiotic resistance and proliferation. In another project funded by EPA, we are characterizing natural biological processes associated with sewer deterioration problems, with a long term goal of improving water infrastructure sustainability. The third project is funded by the Hawaii Department of Health, where we are using molecular and genomic techniques to study the relationship between water quality indicators and human pathogens in coastal waters.

3. Courses I normally teach

I normally teach “Introduction to Environmental Engineering”, “Biological Processes”, and “Environmental Microbiology”. I also step in once a while to teach “Environmental Chemistry” and “Water and Wastewater Engineering”.

4. My professional activities

In addition to being a member of Chinese-American Professors in Environmental Engineering and Science (CAPEES), I am also a member of American Society for Microbiology (ASM), Water Environment Federation (WEF), International Society for Microbial Ecology (ISME), and Association of Environmental Engineering and Science Professors (AEESP).

5. My hobbies and the major attractions and cultural environment of my area and/or community

Hawaii needs no further introduction, and I just want to highlight the natural beauty and cultural diversity of these islands. There is astonishing beauty around almost every corner; the sunrise picture that I snatched during a routine sampling trip on a beach is the kind of view worth traveling thousands of miles for. Hawaii is also a true melting pot of ethnicities, which gives rise to the unique cultural diversity that makes people from around the world feel at home away from home.

6. My thoughts on key factors that lead to my career today

Among many factors that lead to my career today, I would consider the following three to be key: a strong interest in what I do, hard working, and being lucky to have good mentors.



(Sampling trip on a Hawaii beach)

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Featured Member of the Issue

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1. My career path

I received my Bachelor's and Master's degrees both in Environmental Engineering from Tsinghua University in 2003 and 2006. My Ph.D. was from Arizona State University in 2009, also in Environmental Engineering. From 2009-2010, I was a postdoctoral fellow at the Brook Byers Institute for Sustainable Systems at Georgia Tech. I joined the School of Natural Resources and Environment at the University of Michigan as an assistant professor in 2010. In 2011 I started a courtesy assistant professorship with the Department of Civil and Environmental Engineering. At U of M, I am a core faculty member in the Center for Sustainable Systems, a global leader in developing and applying systems-based approaches for sustainability.

2. My current interests and projects

My research is at the interface of engineering and public policy. I develop and apply systems-based modeling tools to understand environmental consequences of emerging complex technology systems and provide science-based decision support for sustainability. Systems I have been studying include bioenergy, clean vehicles, urban infrastructure, and international trade. Given the complexity of these systems, a variety of modeling techniques have been applied in my research, including life cycle analysis, agent-based modeling, environmental input-output analysis, complex network analysis, and large-scale data mining and visualization.

Currently my research is funded by National Science Foundation and Department of Energy through two

projects to 1) develop a spatially-explicit agent-based life cycle analysis framework to improve environmental sustainability of bioenergy systems, and 2) evaluate impacts of clean vehicle development on regional water stress. Other projects are funded internally by U of M to 1) access impacts of environmental challenges on the global trade network, 2) analyze urban vehicle travel behavior using large-scale real time GPS data to reduce energy use and GHG emissions, and 3) evaluate environmental, economic, and social impacts of electric vehicle development in China.

3. Courses I normally teach

I teach a graduate course "Consumption, Trade, and Environmental Input-Output Analysis" and an undergraduate course "Global Enterprise and Sustainable Development."

4. My professional activities

I am members of the International Society for Industrial Ecology (ISIE) and Association of Environmental Engineering and Science Professors. I am an active member of ISIE and have been involved in several organizing committees. I see great potential of connecting CAPEES with ISIE which is the main body of systems-based researchers interested in sustainability around the world.

5. My hobbies and the major attractions and cultural environment of my area and/or community

Ann Arbor is a peaceful and beautiful town. It is perfect to raise a family. The University of Michigan is an ideal place to do scholarly work.

6. My thoughts on key factors that lead to my career today

Motivation was the key for me. I had strong motivation of being a professor when I was in my Ph.D. program because of my mentors. Since then it pushed me to where I am now and will continue pushing me in future.

7. My suggestions to our members

I do not see too many CAPEES members working on the same field as I am. I think it means great potentials to collaborate with many of you. Deep down, I am still an environmental engineer.

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Featured Member of the Issue

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1. My career path

I earned my B.E. in hydraulic engineering from Tsinghua University in 2002. Then I started graduate study in Hong Kong University of Science and Technology (HKUST) through a graduate recruiting program between HKUST and Chinese Ministry of Education. After receiving my M.Phil. degree in Civil Engineering from HKUST in 2005, I continued my graduate study in Georgia Institute of Technology, where I obtained my Ph.D. degree in Civil Engineering in 2011. I joined the Missouri S&T faculty as an Assistant Professor in The Geotechnical Engineering Program in June 2011.

2. My current interests and projects

My research interests include beneficial reuse of industrial waste materials, bio-mediation of soil, contaminant containment and site remediation, and unsaturated soil properties. I am also interested in interdisciplinary researches over the span of biological remediation, petroleum engineering, and electromagnetic signal analysis. My lab developed a consolidometer type bender element testing system, which can measure soil stiffness of geomaterials at controlled physicochemical and stress conditions.

3. Courses I normally teach

I teach Fundamentals of Geotechnical Engineering, and Soil Stabilization. I am also developing two graduate courses, Landfill Design and Management, and Environmental Geotechnics.

4. My professional activities

I served as the session chair for Sustainable Slope Engineering Session in GeoCongress 2013. I served as the session chair for Beneficial Reuse of Waste and Recycled Materials in Sustainable Geotechnical Construction Session in GeoCongress 2012. I also served as a peer-reviewer for journals such as Journal of Geotechnical and Geoenvironmental Engineering, Water Soil & Air Pollution, International Journal for Numerical and Analytical Methods in Geomechanics, Journal of Performance of Construction Facilities, and Journal of Materials in Civil Engineering.

5. My hobbies and the major attractions and cultural environment of my area and/or community

Missouri University of Science and Technology, located in Rolla, Missouri, focuses on educating leaders in engineering and science and ranks among the top 25 in the nation in the number of bachelor's degrees awarded in engineering. Located in the beautiful Missouri Ozark Mountains, Rolla is "one of the best outdoor towns" about 100 miles from Saint Louis, Springfield, and the Lake of the Ozarks. Missouri S&T students enjoy float trips, fishing, hiking, biking and jogging trails along the state's parks and riverways.

6. My thoughts on key factors that lead to my career today

Here are 3 factors that I consider important: 1. Follow your dreams, work hard, practice and persevere. 2. Hope for the best and prepare for the worst. 3. Work out 3 times a week.



Butler-Carlton Engineering Hall

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Featured Member of the Issue

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1. My career path

I joined the Lamar University in June 2008, immediately after completing my Ph.D study in Civil Engineering at the University of Minnesota. My PhD dissertation is "Solute exchange with sub-aqueous sediments: hydrodynamic interactions with advection flows induced by surface waves or bed forms" under advise of Dr. Stefan and Dr. Voller. I worked as construction engineer and Geotechnical engineer for about 4 years after graduating from Nanning University, China. I also had Master degree in Software Engineering from University St. Thomas and a Master in Civil Engineering at University of Minnesota.

2. My current interests and projects

My research interests are in how hydrology, hydraulics, and geomorphology influence ecological health in fluvial systems. My goal is to advance process-based knowledge to allow better informed land use planning, ecological restoration design, and preservation of aquatic ecosystems. We are currently funded by United State Agriculture Department, Texas Department of Transportation, and Lamar University to conduct the following research: (1) Assessment of the Impact of Airborne Particulate Pollutants on the Rio Grande Basin Watershed; (2) Hydraulic Performance of Rectangular Deck Drains; (3) Modeling The Solute Transport in the Interfacial Exchange Zone; (4) Modeling the Sediment Transport in Rio Grande River. My research group, consisting of 4 graduate students, has been very productive. We published 13 articles and have won numerous awards, including 2012 University Merit Award for Faculty (Qian).

3. Courses I normally teach

The courses I teach for undergraduate are Surveying, Hydraulics I, Engineering Hydrology, Hydraulic Engineering and Fundamental Engineering Review

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class. I also teach the following graduate courses: Fluid Mechanics, Hydrology Analysis, Hydraulic Engineering Systems, Models of Hydrological Systems, Hydraulics of Environmental Systems. Moreover, I developed special Topics in Hydrological Design, Dynamics of Fluid, and Analysis and Modeling of Aquatic Environment.

4. My professional activities

I am a member of American Society of Civil Engineers (ASCE), American Geophysical Union (AGU), Overseas Chinese Environmental Engineers and Scientists Association (OCEESA), Chi Epsilon- Honor Society of ASCE, Chinese American Water Resources Association (CAWRA). I served as a Committee Member of ASCE Groundwater Hydrology Committee; Technical Assistant of the Technical Advisory Panel for the Research Management Committee 5 of the Texas Department of Transportation, and Board Member for the Gulf Coast Recovery and Protection District.

5. My hobbies and the major attractions and cultural environment of my area and/or community

Home to more than 14,000 students, Lamar University is one of the fastest growing universities in Texas and is a member of The Texas State University System. LU offers more than 100 programs of study leading to bachelor's, master's and doctoral degrees. The 270-acre campus in Beaumont is about 90 miles east of Houston and about 25 miles west of Louisiana. My home is located in East Houston close to NASA Johnson Space Center. The breath from Gulf of Mexican can melt my stress fast.

6. My thoughts on key factors that lead to my career today

Strong interests and passion in research and teaching play a key role in my career development. I love my students and enjoy sharing my experience and culture with them.

7. My suggestions to our young members

As international students, improving communication skill is always the most challenging in our career development. My suggestion is to take every opportunity in graduate school to improve communication skills. Also, I always reserve time for my family, because they are my source of joy and lifelong treasures.