

Greetings from the President



As we are finishing the spring semester and get ready to start summer activities, I am pleased to introduce the first issue of our newsletter this year, to update you with current CAPEES

activities and initiatives. In this issue you will see the current news from our members. You will also see the accomplishments of four featured members: Dr. Jason (Zhiyong) Ren at the University of Colorado at Denver, Dr. Zhen He at the University of Wisconsin, Milwaukee, Dr. Qiang He at the University of Tennessee, and Dr. Xu Li at the University of Nebraska-Lincoln. I am very proud of what they have achieved in such a short period of their academic lives. Through this newsletter you may find your common interests and collaboration activities for your research.

In recent CAPEES Officer meetings and Board of Director meetings, we discussed what we should do to better serve our community, and to facilitate collaborations between U.S. researchers and Chinese researchers. This year we are co-sponsoring The 8th International Conference on Sustainable Water Environment ([第八届可持续水环境国际会议](#)) to be held in Guilin, China at July 17-19. There will be eight CAPEES members attending this conference and six of them are seeking support from Chun-Hui Program ([春晖计划](#)) for this event and three university visits during the same trip. We are also at the planning stage in working with AEEESP for the Education and Research Conference next year. These activities will not only broaden and deepen connections and collaborations among our members, but also improve communications and understanding between the broad scientific communities in North America and Chinese-speaking regions in Asia.

Editors: Xingmao (Samuel) Ma/马兴茂, Zhiyong (Jason) Ren/任智勇

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Shortly after you read this newsletter, you will receive an email requesting your input regarding our organization and approaches to improve it. This survey will take less than five minutes to complete and hopefully it won't add burden to you. The survey link is also provided under the **Member and Society News** section in this issue. As I conclude my Greetings, I want to thank each of you, especially the officers, committee members, and the Board, for your time and volunteer work. I would also like to take this opportunity to wish you and your family a very pleasant summer, and look forward to continued growth and successes of our association in the years to come.

Jianmin Wang/王建民

Member and Society News

CAPEES Co-sponsoring International Water Conference

CAPEES is a co-sponsor of the 8th International Conference on Sustainable Water Environment, to be held in Guilin, China at July 17-19th. The conference is the first major event CAPEES has sponsored. Three members of our organization, Yuefen, Xie, Jianmin, Wang and Ching-Hua, Wang are in the organizing committee.

Survey Questions for the Future Direction of CAPEES Are Now Available Online

To enhance the future growth and relevancy of CAPEES to all our members, CAPEES officers, under the leadership of CAPEES secretary, Dr. Baoxia Mi at University of Maryland, have developed a questionnaire to gauge our member interests and to brainstorm activities for our future. All members are encouraged to take the on-line survey. The survey questions can be found in the following link:

<http://www.surveymonkey.com/s/S6TKLMG>

Dr. C.P. Huang Received Gordon Maskew Fair Award

Dr. C.P. Huang, Donald C. Philips Professor of civil and environmental engineering at the University of Delaware and a founding member of CAPEES was the recipient of the 2012 Gordon Maskew Fair Award from American Academy of Environmental Engineers (AAEE). The award honors AAEE certified members with exemplary professional conduct and significant contributions to the water quality improvement of the world's environment. Dr. Huang received a similar award also under the name of Dr. Fair in 1999 from Water Environment Federation for his "worthy accomplishments in the training and development of future engineers".

Dr. Yang Deng Received Grant from DuPont and Has a Postdoc Position Available in His Lab

Dr. Yang Deng and his colleagues at Montclair State University recently received a two year grant from DuPont to study the remediation of contaminant mixtures in groundwater with in-situ chemical oxidation. A postdoc position funded by this project is immediately available. Student members of CAPEES and students of CAPEES members are encouraged to apply. The position carries many competitive benefits. Detailed information is available in the following link:

<http://www.montclair.edu/~dengy>

Dr. Samuel Ma Received USDA Grant

Dr. Samuel Ma and his colleague in plant biology at Southern Illinois University Carbondale recently received a four-year grant from USDA-NIFA program. The one-half million dollar grant will allow the two PIs to study the accumulation of engineered nanomaterials in belowground vegetables and nutritional bioaccessibility to humans through dietary consumption.

Upcoming Conferences

8th International Conference on Sustainable Water Environment

The 8th international conference on sustainable water environment will be held in picturesque Guilin, China from July 17-19, 2012. This conference is co-sponsored by CAPEES. The conference will cover four major topics:

- Integrated watershed management
- Low energy processes in pollution control and water purification
- High efficiency and low energy water reuse
- Water environment conservation

2012 ACS National Fall Meetings

The 2012 national American Chemical Society (ACS) fall meeting will be held in Philadelphia, August 19-23, 2012. The conference theme centers around the new materials for health and medicine. In addition to the national meetings, ACS holds many regional meetings and technical divisional meetings which could be interesting to CAEESP 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>

2012 WEFTEC National Conferences

Water Environment Federation (WEF) will sponsor several national and international conferences year around. Interesting topics include residues and biosolids, odor control *et al.* Detailed information can be found on WEF website.

<http://www.wef.org/conferences>

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Featured Member of the Issue

Zhiyong (Jason) Ren (任智勇),
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1. My career path

I joined the University of Colorado Denver (UCD) in August 2008, immediately after completing my Ph.D study in Environmental Engineering at the Pennsylvania State University (University Park). I have been a visiting professor at the National Renewable Energy Lab (NREL) since 2009. I worked an environmental engineer for about 2 years after graduating from Tianjin University, China.

2. My current interests and projects

My research focuses on renewable energy and chemical production during waste treatment, remediation, and water desalination processes. My lab works on developing novel microbial electrochemical approaches to transform current environmental infrastructure from simple treatment processes to integrated energy and chemical recovery systems. We are currently funded by Office of Naval Research (ONR), Environmental Protection Agency (EPA), Bill & Melinda Gates Foundation, NSF-IGERT, and industrial sponsors to conduct the following research: 1) understand and develop novel bioelectrochemical systems (BESs) for integrated wastewater treatment, energy production, and water desalination; 2) characterize BES approach for subsurface bioremediation; 3) characterize and develop electrochemical biofouling control systems; and 4) develop modular microbial fuel cells (MFCs) for developing countries and communities.

My research group, consisting of 1 postdoc researcher, 6 graduate students, and 2 visiting scholars, has been very productive. We published 16 journal articles and 2 patents since 2011 and have won numerous awards, including 2012 University

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Award for Faculty Research and Creative Activities (Ren).

3. Courses I normally teach

I teach Introduction to Environmental and Sustainability Engineering (undergraduate), Biological Processes in Water Engineering Systems (graduate), and a newly developed course called Sustainable Bioenergy Systems (graduate).

4. My professional activities

I am proud that I have served in CAPEES as an associate editor since 2009 and board member since 2012. I am also a member of AEESP, ACS, ASM, WEF, and IWA. I have been involved in organizing several symposiums in ACS and AEESP, and I am an organizing committee member for the 2013 AEESP conference in Denver, Colorado. Hope to see everybody here next year!

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

University of Colorado Denver is a fast growing University. It offers more than 130 programs in 13 schools and colleges with more than 17,000 students. Denver perfectly combines urban living with outdoor adventures. I can write my frustrating proposal one day, and next day I can run up to the mountains, melting my stress with the blue sky and crisp mountain air.

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

Interest is the best teacher. So I try to follow my heart on what I want to do, and faculty is a perfect job for me, because it gives me the freedom to try anything fun.

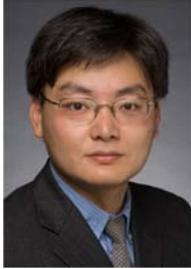
7. My suggestions to our young members

I feel collaboration is a key element of success, especially in those interdisciplinary areas. Also, always reserve time for your family, because after 30 years when nobody remembers your papers, your family will still be with you and sharing every memorable moment.

Featured Member of the Issue

Dr. Zhen He/贺震

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1. My career path

I received my BE degree in Environmental Engineering from Tongji University in 2000. Then I went to Denmark and completed a Master degree in Environmental Engineering with Prof. Irini Anglidaki at Technical University of Denmark in 2003. My MS thesis was about anaerobic digestion of agricultural waste. To continue my advanced study, I joined in Prof. Lars Angenent's group as a PhD student at Washington University in St. Louis. My PhD thesis was about microbial fuel cells, which share some similar principles to anaerobic digestion. After receiving my PhD in 2007, I conducted a postdoctoral training at University of Southern California, working with Prof. Florian Mansfeld (electrochemist) and Prof. Ken Nealson (microbiologist). In 2009, I established my own lab at University of Wisconsin-Milwaukee.

2. My current interests and projects

My research interests lie at the crossroads of microbiology, engineering and electrochemistry. We are seeking a fundamental understanding of the key factors in engineered systems designed for bioenergy production with the overarching goal to improve bioreactor performance. More specifically, my group is developing bioelectrochemical systems (BES), such as microbial fuel cells, microbial desalination cells and microbial electrolysis cells, for water and wastewater treatment. We explore new applications of BES, for instance, we have integrated forward osmosis into microbial fuel cells for recovering water from wastewater while generating bioenergy, and we also link algal bioreactors to microbial fuel cells for biomass production and improved nutrient removal. Our research is supported by NSF, Binational Agricultural Research and Development Fund,

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Veolia Water, Gannett Fleming and other funding sources.

3. Courses I normally teach

I have been teaching "Introduction to Environmental Engineering" for past three years, and co-taught a graduate course "Freshwater Engineering" for School of Freshwater Sciences at UW-Milwaukee. In fall 2012, I will open a new graduate-level course "Bioelectrochemical System for Environmental Engineering".

4. My professional activities

I am a member of International Water Association (IWA) and Association of Environmental Engineering and Science Professors (AEESP). I am one of the founders and board members of Chinese Environmental Scholars & Professionals Network (CESPN). CESPN is a non-governmental organization, registered in the state of Arizona in 2008. CESPN maintains an active online forum (www.cespn.net) for discussing environmental issues.

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

Milwaukee is the largest city in the state of Wisconsin, and one of the major manufacture centers in the nation. Its location in the southwest shore of Lake Michigan cultivates many water-related businesses such as Miller Brewery. There are more than 130 water technology companies in the Milwaukee region, which aims to become a world hub for water research, education and economic development. Milwaukee is home to several professional sports teams including Milwaukee Brewers (baseball), Milwaukee Bucks (basketball), and Green Bay Packers (football). The Milwaukee Art Museum is Milwaukee's most visually famous cultural attraction (see photo).

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

Strong interests and passion in research and academic life play a key role in my career development.

Featured Member of the Issue

Xu Li / 李旭

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1. My career path

I received my B.E. from Tsinghua University in 2001, M.S. from Pennsylvania State University in 2003, and Ph.D. from the University of Michigan in 2008, all in Environmental Engineering. Before I moved to Michigan in 2005, I studied two years at UIUC.

2. My current interests and projects

My research lies in the general area of environmental biotechnology/microbiology. Specifically, my research interests focus on three areas: 1) fate and transport of emerging contaminants (e.g., antibiotics and antibiotic resistance genes); 2) removal of contaminants (e.g., estrogens, perchlorate, and nitrate) from water using environmental biotechnology, and (3) microbial transformation of soil organic carbon in heterogeneous landscapes. My current projects include (1) accumulation of pathogens in crop plants from irrigation water, (2) fate and transport of veterinary antibiotics and antibiotic resistant bacteria in the environment after land application of livestock manure, (3) microbial degradation of estrogenic compounds in biofilm reactors, and (4) the structure of soil microbial communities responsible for soil carbon transformation in heterogeneous landscapes.

3. Courses I normally teach

I typically teach Introduction to Environmental Engineering, Laboratory in Environmental Engineering, and Unit Process Design in Water and Wastewater Treatment. I also teach two graduate courses Environmental Engineering Chemistry and Environmental Engineering Microbiology.

4. My professional activities

I am a member of the American Chemical Society (ACS), American Society for Microbiology (ASM),

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and American Water Works Association (AWWA). Typically, I go to the annual meetings of ACS and ASM. I haven't been very involved in professional committees. If a vacancy is available, I'd like to consider sitting on the committee.

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

The University of Nebraska-Lincoln (UNL) is located in the capital city of Nebraska. In 2011, UNL became the newest member of the Big Ten conference and the Committee on Institutional Cooperation (CIC). Joining Big Ten and CIC brings UNL tremendous opportunities to further improve its athletic and academic programs. Together with the three Big Ten schools I have studied in, my academic career has involved almost half of the Big Ten schools. For Nebraskans, college football is a huge deal. Nebraska Huskers fans keep a national record for the longest funning sellout streaks in college football: 312 games since 1962. Another major city of the State, Omaha, is 50 miles east of Lincoln. Omaha has the most billionaire per capita in the US, made possible by Warren Buffet and his investment partners.

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

The most critical factor that shapes my career is the pursuit of a research area that interests me. Since college I have always been interested in the microbiological aspect of environmental processes. I feel fortunate to have the opportunity to study environmental microbiology during graduate school and continue conducting research in this area at UNL.

7. My suggestions to our young members

I myself am still searching for the best way to shape my career and balance work and life. So, you may take my suggestion with a grain of salt. I found that oral and written communication is often one of the most challenging things facing international students in their career development. So, you may want to take every opportunity in graduate school to improve your communication skills.

Featured Member of the Issue

Qiang He 何强

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1. My career path

I received my B.S. in Biochemical Engineering from East China University of Science and Technology at Shanghai and continued graduate study at Kansas State University for M.S. and University of Illinois at Urbana-Champaign for Ph.D. in Environmental Engineering. My postdoctoral training was at Oak Ridge National Laboratory and was on the faculty of the Department of Civil and Environmental Engineering at Temple University for two years before I joined University of Tennessee in 2007.

2. My current interests and projects

My work has been focused on the microbial aspects of environmental engineering, particularly metal bioremediation, waste treatment, and water quality. We have been studying the mechanisms of metal reduction by sulfate-reducing bacteria and the energetic pathways in these microorganisms using functional genomics tools. We have also investigated the metabolism and microbial ecology underlying the conversion of cellulosic materials into bioethanol and methane via ethanolic fermentation and anaerobic digestion. Another area my research has focused on is the microbiological quality of drinking water in the distribution system. Primary support for these projects comes from Department of Interior, NSF, EPA, State of Tennessee, and private industries.

3. Courses I normally teach

I regularly teach one undergraduate course—Introductory environmental engineering and two graduate courses—Environmental microbiology and Advanced water and waste treatment. I also teach two more graduate classes—Advanced biological processes and Pollutant fate modeling & risk assessment every 2-3 years. Additionally, I enjoy

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teaching a freshman seminar, “Dirty Jobs”, once a year to introduce the field of environmental engineering to freshman students.

4. My professional activities

I am a member of American Society for Microbiology (ASM) and Association of Environmental Engineering and Science Professors (AEESP). As the China Liaison for the Tennessee section of American Water Resources Association (TN-AWRA), I organized a special China session at the 23rd Tennessee Water Resources Symposium (April 2012) featuring presentations by a delegate of 20 professors from Xi’an University of Technology.

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

Tennessee is known for its mountains and valleys. Indeed, Knoxville, Tennessee, where University of Tennessee is located, is only ~50 miles away from the Great Smoky Mountains National Park (see picture). The Tennessee River meanders by downtown Knoxville and the campus. Enjoying southern



food by or on the river is a tradition to host our guests. If you’d still like to see more science and engineering, the Tennessee Valley Authority headquarters in downtown is only minutes away and you can get to the Oak Ridge National Laboratory with a 30-min drive. Do you know that Knoxville hosted the 1982 World’s Fair? I hope you are not expecting to see the same grandeur as you have experienced in the most recent one hosted by Shanghai; but the view on top of Sunsphere remains incredible after 30 years.

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

I don’t think I could be who I am now without the help and support from my advisors, friends, and colleagues. Don’t be afraid to ask for help. They are always there to support you.