

# IMPACT

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Association of Overseas  
Chinese  
Agricultural, Biological, and  
Food Engineers

海外华人农业、生物技术和食品工程师协会

## 2007 AOC Annual Meeting Activities

*By Chenghai Yang*



Chenghai Yang

The Association of Overseas Chinese Agricultural, Biological, and Food Engineers (AOCABFE or AOC) Annual Meeting will be held in conjunction with the American Society of Agricultural and Biological Engineers (ASABE) Annual International Meeting in Minneapolis,

Minnesota, USA, June 17-20, 2007. The formal activities of the AOC Meeting include a business meeting, a dinner banquet, a technical session (China Exchange), and a student dinner.

**Business Meeting, Monday, June 18, 6:00-7:00 pm**

During the business meeting, AOC activities in the previous year will be reviewed and plans of action for next year will be discussed. New board members and officers will be elected.

**Banquet, Monday, June 18, 7:30 pm-10:30 pm, at Seafood Palace Chinese Restaurant**

The dinner banquet will immediately follow the business meeting and provide an excellent opportunity to recognize those individuals who have made outstanding contributions to the AOC in the past year and also to allow the members and friends

to socialize and network. Certificates of recognition and awards will be presented to members of AOC at the banquet.

**China Exchange, Wednesday, June 20, 9:30 am-12:00 noon**

China Exchange is a jointly sponsored session by ASABE and AOC. The purpose of the session is to provide a forum for sharing and exchanging visions, experiences, and new ideas for promoting and developing scholarly cooperation activities between the institutions or individuals in China and in other countries in the areas of agricultural, biological, and food engineering.

**Registration via ASABE Webpage BY April 13**

The registration fee for the AOC annual meeting (including banquet) is \$50 for regular members residing outside China and \$15 for student members and regular members residing in China. To register for the ASABE meeting and the AOC meeting, you can download a registration form from the ASABE webpage at <http://www.asabe.org/meetings/aim2007/index.htm>. We encourage you to pay the AOC registration fee with your ASABE registration fee before April 13. The event number for the AOC meeting and banquet is E# 4 listed on the second page of the ASABE registration form. If you don't pay it via ASABE registration by April 13, you can pay it onsite.

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## News in Brief

2007中国海外学子创业周" 活动将定于2007年6月29日-7月1日在中国·大连世界博览广场举办。"创业周" 活动主办单位是中国科学技术部、教育部、人事部、国务院侨办、中国科学院、辽宁省人民政府。由大连市人民政府承办。本届活动主题: 汇聚国际科技资源, 促进创新产业和

### Inside This Issue

News in Brief .....	1
Featured Story on Dr. Jun Zhu .....	2
Call for AOC Student Paper Award Nominations .....	5
Reports of Trip to China.....	6
Minutes of AOC Board Teleconference .....	10
University Spotlight: North Carolina State University .....	13
Call for Donations to AOC.....	16



Engineering at Iowa State University. In 1997, he joined Department of Biosystems and Agricultural Engineering at University of Minnesota. In 2004, he got his tenure and now is an associate professor and extension engineer in the department and Southern Research and Outreach Center with 80% in research and 20% in extension.

Dr. Zhu is an expert in various areas including waste management and environmental engineering, corrosion engineering and scanning electron microscopy, and civil engineering. His research interests include evaluation, development, improvement and application of various treatment techniques for bioreactors to process animal manure and organic waste, odor control techniques, bio-resource recovery, and environmental microbiology and biochemistry. He also did brilliant work in investigation of corrosion mechanisms of metal products in agricultural facilities including those caused by microbes, environmental control of metal corrosion problems, and application of X-ray technologies to analyze corrosion products and microbial colonization. In addition to the agricultural and biological areas, he is also experienced in structural design of buildings, foundations and bridges, testing concrete and steel structure, and construction supervision and management.

As a very active research fellow, Dr. Zhu published over sixty peer reviewed journal articles, over seventy non-referred publications in various proceedings of conferences and symposia, popular press and newsletters. He obtained approximately two million funding in over twenty proposed projects. He has been supported by many government agencies, organizations, commodity groups, and the university such as Minnesota Legislation Rapid Agriculture Response Fund, EPA 319 Program via Minnesota Pollution Control Agency, Minnesota Corn Growers Association, National Pork Board,

Minnesota Department of Agriculture, USDA/CSREES/NRI, The Utah Pork Procedures Association, Minnesota Renewable Energy and Environment, and etc. Due to his excellent work, he has been awarded many times in researching, teaching and due to his achievement and contribution to important field of endeavor. He also attended, presented and organized a variety of important meetings and workshops in his area of expertise. In order to try his best to make his contribution to the society, he was also involved in lots of professional committees and public service. He served as review panel for USDA, The US-Israel Bi-national Agricultural Research and development Fund, National Pork Board, and The National Science and Engineering Council in Canada. He also reviewed manuscript for over ten journals including International Journal of Hydrogen Energy, Journal of Agricultural Engineering Research, Biosystems Engineering, Bioresource Technology, Journal of Environmental Quality, Trans ASABE, Applied Engineering in Agriculture, and so on and so forth.



Fig. 1. Dr. Jun Zhu is working in his lab

### Interview

**Yi:** *You have your BS and MS degrees in Civil Engineering. What inspired you to have your Ph.D. study shifted to Agricultural and Biological Engineering?*

**Jun:** Well, to be honest, I didn't intend to step into Agricultural and Biological Engineering at the very beginning. I was trying very hard to get admitted into Civil Engineering programs in the US universities

for some time, but to no avail, possibly because of lack of financial support during that particular time period. Bumping into my brother-in-law who was then a graduate student in the Agricultural Engineering Department at UIUC and put me into contact with a faculty member in his department working on research projects related to structural engineering. This opened a door for me to take a close look at a

discipline that I rarely thought of before in my life, and also posed a big challenge to me in advancing my career in a different area due to the risk associated with changing specialty area in profession, which meant that I had to be retrained, or re-equipped, with knowledge and expertise that could be sea different than my background and training. With all being considered, I made up my mind to give it a try. When the offer came, I braved my journey in an uncharted territory from the ground up.

*Yi: Are these two fields (civil engineering vs. biological and agricultural engineering) very different to you?*

**Jun:** Yes, these two areas are totally different from the perspective of the nature of work traditionally accomplished by structural and agricultural engineers, with the former primarily designing building structures and the latter applying engineering principles and technologies to agricultural production systems. When the biological emphasis is brought into play, the old agricultural engineering major becomes more inclusive of almost everything related to productivity and sustainability of the environment in which humans live. Without doubt, the current Agricultural and Biological Engineering is much diversified, thus extremely intriguing, which, in my opinion, lays the pivotal foundation for the prosperity of global economy for years to come.

*Yi: Was there anything from your civil engineering background benefit you in current research?*

**Jun:** I would say, yes. As an engineer, certain things don't change, such as the basic training that every engineering student receives during undergraduate study in using engineering theories and principles to tackle technical problems and develop new processes and technologies, regardless of his/her specialty area. However, as trained in civil engineering, I was exposed extensively to advanced mathematics and materials sciences, which helped me understand better the mathematical maneuvers widely encountered in development of kinetic parameters in biological processes and types of materials to be chosen for biological reactors. My structural engineering background also enables me to explain to my clients the structural failures of some agricultural buildings due to flawed designs.

*Yi: After you got your master's degree, you worked*

*in a Chinese institute for about five years. Why did you decide to come to US and pursue a Ph.D. degree in UIUC?*

**Jun:** This is a good question, to which I guess I don't have a clear-cut answer. I would say that to study abroad and get an advanced degree was a dream in my mind for a while at that time. Frankly speaking, working for the Building Research & Design Institute of Zhejiang was not bad at all, especially from the viewpoint of making money. What bothered me most was the nature of the job, which was relatively uneventful, boring, and short of new challenges and initiatives. So I always asked myself a question, "Am I ready to settle down on this job for the rest of my life?" Eventually, I came to a conclusion that I could accomplish more if I took a job in academia. This was why I came to US for my Ph.D.

*Yi: As a professor and an extension specialist, I assume that you don't have to do much teaching? Why do you choose to have such position and how you do like it?*

**Jun:** Let me clarify some of the confusion between classroom teaching and extension teaching. What you meant here is classroom teaching. You are right that I don't have any teaching responsibility, not because I don't like to teach, but because the job is created that way. It is not up to me to choose my appointment configuration that is pre-determined by the recruiting institution based on its needs when the job is advertised. Speaking of extension, it does fall into the teaching category, but to a different audience who are people from all walks of life, rather than just college students.

*Yi: You mentored many visiting scholars/graduate students from Chinese universities and were invited to teach courses in Zhejiang University. What kind of benefits can be obtained from such academic exchange? How do you think about the current education in Agricultural and Biological Engineering in Chinese universities? (Any good aspects, anything needs to be improved?)*

**Jun:** Scholars from different countries and universities can always benefit from exchanging research perspectives from each other. I think, in the last several years, that the interlocutions between higher-education institutions in China and US have been intensified in big ways, leading to many of us working in the universities in US traveling back and



forth more than ever to promote academic exchanges. Doing teaching in a Chinese university affords me a perfect platform to not only share my research with the future agricultural and biological engineers but also learn from them the visions they have towards the critical role that agricultural and biological engineers will play in advancing agricultural production in the 21<sup>st</sup> century.

China is a country of my origin and I constantly have a feeling that I need to do something for her. I am very pleased to see that my post-doctors and graduate students who have returned to China after finishing their training here in the US are doing very well in their respective areas in helping China cope with ever increasing problems in environmental pollution. I wish them well, and China, too.

As far as the current education in Agricultural and Biological Engineering in Chinese universities is concerned, I would suggest that they increase coursework for both undergraduate and graduate students in biological science and chemistry. My personal experience tells me that knowledge in these areas is essential for future generations of

agricultural and biological engineers in view of the fact that their work scope will be increasingly shifted towards biological engineering.

*Yi: Would you tell us something about your family? How do you balance your busy research/school work and your family?*

**Jun:** Sure. I have a family of three, i.e., myself, my wife, and daughter. My wife is an accountant working for a company and my daughter is a high school junior who will be going to college in 2008. Time management is virtually a challenge for whoever working in academia and many others in this column have already presented their views and tactics with respect to balancing work and family, from which I have learnt a lot. The bottom line is that you have to love what you are doing and, at the same time, make sure you don't forget that you have a family. I by no means believe that one has to pit work against family life in order to succeed. There is a will, there is a way. This is just my opinion.

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## Call for 2007 AOC Student Paper Competition and Award Nominations

### Dear AOC student members:

It is the time again for submitting your papers to the AOC Student Paper Competition and nominations for the AOC Student Awards. This year, the AOC Annual Meeting will be held concurrently with the ASABE Centennial Meeting in Minneapolis, Minnesota. We are expecting more students to attend the meetings. Please note that we will accept paper entries from and award nominations for ALL AOC student members, including AOC student members in China.

### 1. AOC Student Paper Competition

If you already submitted a paper to the 2007 ASAE Annual Meeting and are interested in submitting your paper to the AOC student paper competition, please send your paper and the "entry form" (<http://www.aoc-web.org/student/2007AOCStudentPaperAwards.pdf>) to Dr. Naiqian Zhang of Kansas State University ([zhangn@ksu.edu](mailto:zhangn@ksu.edu)) **no later than May 25, 2007**. You can find the judging criteria (score sheet) that will be used to evaluate your paper at the website (<http://www.aoc-web.org/student/awards/ScoreSheet.pdf>). The top five

winners will receive certificates as well as cash awards. Please note that we only accept papers written for the 2007 ASABE Annual Meeting.

### 2. AOC Graduate Student Awards

A. If you would like to be considered for the AOC Graduate Scholarly Achievement Award, please ask your major professor to nominate you. Check the web site (<http://www.aoc-web.org/student/2007awards>) for the procedure and criteria. Send the nomination to Professor Naiqian Zhang **no later than May 1, 2007**. Note that your major professor does not have to be an AOC member, neither does he/she have to be a Chinese!

B. If you would like to be considered for the AOC Graduate Leadership and Service Award, you need to find an AOC member to nominate you. Note that this award can be nominated by any AOC member. The nominator does not have to be a professor. Check the same web site (<http://www.aoc-web.org/student/2007awards>) for details. The deadline for nomination is also **May 1, 2007**. For both awards, the winners will receive certificates and cash awards.

Of course to become eligible for these awards and opportunities, you have to be an AOC member. For that, simply download the application form from <http://www.aoc-web.org/applicationform.htm>, and send the form, together with a \$5 check, to Dr. Donghai Wang, the AOC treasurer ([dwang@ksu.edu](mailto:dwang@ksu.edu)).

Please note that being physically present in Minneapolis is not a precondition for any of these awards. In other words, you may submit an entry to

the competition or be nominated for an award even if you will not be able to come to Minneapolis.

Sincerely,

Haitao Xiang, Chair of Student Activity Committee  
Naiqian Zhang, Student Advisor  
Junming Tang, Chair of Membership Committee

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## Impressions of China

*By Trisha Culbertson*

As a young girl, I had never met a Chinese person, let alone been to China, yet my first impressions of China began forming at this age. Whenever I complained about eating the peas on my plate, I was reminded that the starving children in China would be more than happy to eat my wasted food. By looking at the tags on my clothes and toys, I figured out early on that 67% of everything I owned started out in China. I also learned from Big Bird on Sesame Street that China was a land of many people, all of whom rode a bike and were much shorter than Big Bird.

My trip to China for the BAE 620 study abroad has led me to conclude that while my childhood impressions held some truth, they were largely incomplete. Take for instance, the starving children. Though I looked, I found none. Rather, I saw smiling, round-faced children who wore pants with slits in the back rather than diapers and food for sale on every corner. Starving children seemed to be of no concern at our eating establishments, where we were presented with a seemingly endless stream of food at every meal. I felt compelled to stuff myself every time I sat down to eat because, for one, the food was delicious, and two, I still felt guilty for wasting food when I knew there had to be starving children in China somewhere. Perhaps China's progress toward agricultural modernization has helped produce this abundance of food. I was interested in the research being done at the Jilin Academy of Agricultural Science to produce higher-yielding varieties of corn, rice, and other crops. I also caught a glimpse of the intensity of agriculture necessary to produce such an amount of food to feed China's population: if an area was not reserved for a house or a road, it was under cultivation. While traveling in the train, I even saw hillsides that had been terraced to add to the total area of cultivated land. Despite the improvements in agriculture, the life of a farmer or peasant is far from easy. As I learned from Byron, one of my Chinese

jogging-mates, the average peasant makes less than the equivalent of \$500 per year. So while I did not witness starvation, I'm sure it does exist, just as it exists in nearly every country.

As for 67% of the things I own originating in China, this may be close to correct. In listening to John Hildebrand's conversations with some of the Chinese students, I learned that much of the West's manufacturing has been sent overseas to China. This has probably been both a blessing and curse to the country. The additional manufacturing has created new jobs and helped bolster the Chinese economy, which has grown steadily over the past decade. However, an increase in manufacturing also corresponds to an increase in pollution, with which China is sorely plagued. While the air quality was not unbearable in the cities we visited, the air was slightly acrid to my lungs. To confirm China's struggle with pollution, CNN news aired a series on the most polluted cities in the world while we were in Shanghai. The top city was Linfen, located in the most polluted country, China.

One thing I was prepared to encounter in China was people and lots of them. In nearly every picture I've seen of a Chinese city, there were people everywhere. This is why I was surprised when we arrived at the airport in Beijing. Where were the people? (I would learn later that most Chinese travel by train rather than air, leading to an airport with relatively few crowds.) I found the crowds the next morning on a walk with Alicia, after waking with the early sunrise at 5 AM. Despite the early hour, there were people everywhere. Older men and women congregated outside buildings to do stretches and other exercises. A farmers market ran the length of one street, and crowds of people peered over one another to see the array of fruits and vegetables the vendors had to offer. The streets were already bustling with cars and bikes, and street sweepers were out with their brooms to whisk away the night's dust. The sheer number of automobiles on the road

made driving an interesting challenge and, whether we were in the van with the Jilin teachers or in a taxi, the ride was something of a thrill for me. The transportation situation in China was a little different than I had expected though. I remember seeing pictures of streets packed with bicycles, even to the point of bicycle traffic-jams. So even though I saw lots of bikes, I did not see them to the extent I thought I might. I did see a lot of cars, probably again as a result of China's economic growth. I expect that if I were to go back to China in a few more years, I would see even more cars, although I still haven't figured out where they are all going to fit.

In addition to righting some of the ideas of China I had previously held, my trip to China gave me many new ones. Though my tour of China was by no means extensive, I have the impression that the people in the country feel something like Popeye after eating a few cans of spinach: ready to take on the world. For instance, consider the shopkeepers. Whether they were selling fancy jade jewelry in a government owned shop or trying to eek out a living selling kites and cheap souvenirs at a popular tourist site, they pursued their goal of selling you something with passion and vigor. At first, the aggressive Chinese style of selling and buying really bothered me. I didn't like the pressure and I wasn't prepared for it. For instance, at the Puppet Palace souvenir shop in Changchun, I ended up buying a book about Pui that the salesgirl ensured me, "you, your family, and your friends need and cannot live without this book!" Though I was pretty sure I could live without the book, I bought it anyway because I didn't want to disappoint this enthusiastic young girl. But, I quickly learned from my experience and figured out how to barter, or at least say no. Alicia and my crowning moment came in Shanghai when we talked a shopkeeper down from 280 to 100 Yuan for a fancy set of chopsticks.

I found further evidence of this "Popeye mind-set" in some of the students I spoke to. When I asked them about their plans after college, I was struck by their eagerness to get out in the working world and make money. Even though some of them were headed to factory jobs that wouldn't pay much to a college graduate by American standards, this didn't seem to matter; they just wanted to be working. I think this attitude is partly a reflection of the characters of the students I was talking to. As I understand it, the Chinese education system is very demanding, even from elementary school, so that only the top students are accepted to the universities.

So, while I was at Jilin, I kept reminding myself that I was surrounded by some of the brightest, most driven students in China. The students'

overwhelming desires to work hard both in school and afterwards gives me the impression that both a good education and a job are precious in China. In a country with over 1.2 billion people, where positions in universities and in "decent" jobs are limited, this would likely be the case.

Although the students I met were incredibly dedicated to their studies, they certainly knew how to have fun. In fact, I think they pursued their positions as our hosts with as much vigor as their schoolwork. My favorite time during my 14 days in China was the time we spent with the Jilin students. They entertained us with traditional and modern songs and dances, engaged us in games of basketball or ping-pong (and didn't rub it in when they beat us!), and even invited us to a dancing ball. I enjoyed talking to them and learning about their families and lifestyles. And they, in turn, were very interested to hear about our lives in America. In all truth, our Chinese hosts were some of the friendliest people I've met. One of the students I talked to indicated that this friendly character develops at a young age. He said that since most Chinese children come from single-child homes, they are especially eager to make new friends since they don't have siblings to play with. Whatever the reason for their kindness, I will never forget it.

This trip to China will probably remain one of the most memorable experiences of my life. Although the focus of the trip was on the modernization of Chinese agriculture, I gained a much wider view of the country. The experience gave me a new perspective of how people in another country live and view the world, and in doing so, has also helped me to better appreciate the lifestyle I am able to live in the United States. I also gained a better appreciation of what it feels like to be a foreigner, so that now I may be better able to empathize with exchange students at Kansas State. Though I was struck by the differences between China and America, and the differences between myself and the Chinese students that I met, I also realize that we are very much the same. Perhaps that is why I found the students to be the most refreshing part of the trip. As China's influence in world continues to grow, it's interesting to think that I will likely be working with someone from China in the future, maybe even one of the hard-working students I met at Jilin! For this reason, I think it would be to my benefit to learn a little Mandarin Chinese. I had a few lessons during my morning track runs at Jilin, but know that I need a lot of work. I hope to have the opportunity to return to China, to fill in the gaps of my current perspectives of the country as well as gain some new ones.

# Agricultural Modernization in China

*By John Hildebrand*

Traveling across the world - taking in a completely different culture, both very good reasons to study abroad. However, I desired to study abroad in China to get a glimpse of America's own agricultural past. What I found was so much more! I found a world of nearly a billion people living their lives much the way their ancestors had for hundreds of years. Meanwhile, the balance of China's overwhelming population is embarking on the greatest economic turnaround the world has ever known. In this article I will outline my observations and give my impressions of the education, economy and agriculture of China.

## Education

Our first stop at Jilin University gave me a great perspective of the growing middle and upper class citizens of China. In the United States college students come from middle and upper class families. This of course is not a rule by any means, but I feel that this is the norm. I assume that this is very much true for the Chinese as well. I found these students all were very nice and friendly and excited by the opportunity to meet students from so far away. I found that their facilities were very similar to those you would find on any campus in the U.S. The students all had their sights on very ambitious goals and seemed to be truly focused on attaining them.

Our stay at Jilin University was very much improved by the fact that many of the students did speak at least an understandable amount of English. In speaking to the students I found that many of them started English lessons in primary school. I was impressed that such a global emphasis is part of their curriculum at that level. Such a progressive focus in education is a testament to the forward-looking political leaders who have adopted a capitalistic but yet semi-communist economic structure. This type of leadership has paid great dividends for China and will continue to do so in the future.

I felt that the students of Jilin University are very determined and hard working in their studies. This is due in large part to the unimaginably competitive workplace in which they will be entering. Many of the students were postgraduate students. It seems that a larger percentage of students pursue graduate degrees than in the U.S. One such graduate student was planning on graduating this year and was looking forward to working a factory job. Graduate students working factory jobs? This seemed a waste of knowledge, skill, ambition, time and money.

This leads me to my first great realization from

my international experience. In the past, many hundreds of thousands of jobs have been outsourced to developing countries like China. This is partly because of cheaper labor and avoidance of payouts to health care, pensions, etc. But the ugly reality of outsourcing to countries such as China is that there are per person productivity gains as well. You see as you take low wage low prestige jobs in the U.S. and relocate them in China they become relatively higher wage and greater prestige. The result, happier workers who take pride in what they do and who know that there are thousands of other workers craving their jobs. Hence, productivity gains over U.S. workers. It's okay though because we have developed better, higher wage, more knowledge based jobs to replace the jobs lost making U.S. workers better off. Last fall, the unemployment rate in the U.S. reached record lows, so outsourcing factory jobs isn't that bad, Right? From what I have seen from my studies at a major university in China I predict job outsourcing, Phase II, Phase I being the outsourcing factory jobs to China from the U.S. Thomas Freidman also put forth a similar prediction in his book "The World is Flat". With all of these graduate level students currently entering the labor force there is great potential for knowledge-based work to be outsourced to China. Firms will utilize the ever-increasing knowledge base that Chinese schools are pumping out due to the lower benefits that are required to retain workers. As Freidman points out, the best way to fight such a revolution is to increase the educational focus in the U.S. by pouring more money into education instead of cutting funding. In addition, the U.S. must reopen the borders to students who want to study in the U.S. as it once was before 9/11. Otherwise, the U.S. could lose its superpower status not only to China but also India and other countries with more educational intensive societies.

## Economy

A lasting impression was made in my mind by the extreme income gap between the upper and lower classes of china. Two opposite worlds coincide in China, often-just blocks away from each other. On one street paupers living in shanties or run down apartments if they are fortunate, meanwhile, on the next street one may glimpse people living in high-rise apartments and working in skyscrapers comparable if not better than those in even the most prosperous U.S. cities.

My first encounter with the less fortunate middle class of China came when we ventured into a small



farm village just outside of Chanchung. We walked the streets for a while before we encountered a farmer's wife who was more than happy to show us their family's home. The house that we visited was no larger than 10 X 20 feet. It was very clean inside and had a T.V. set, stove and a sleeping area. I believe that this family was pretty well off for farmers in China because they were able to purchase a very small tractor. Even though it was a very nice living for rural China, it was still very modest in comparison to the U.S.

In our travels around the city of Xi'an I noticed many men sitting along the roadsides with sledgehammers or other tools waiting for someone to hire them for daily work. I found that many Chinese are very talented and able to make a living by showcasing their artistic abilities as well. No matter what their trade, whether they were street sweeping or driving a cab the Chinese seem very happy and content just to have a job.

The other side of the ever-widening income gap is living pretty large. They are being driven in their own cars that would make even U.S. fat cats envious. They seem to be always in a rush. They are able to splurge in stores with pricing very similar to high-class U.S. outfitters. Many live in very expensive high-rise apartments. In the bigger cities of China, Shanghai and Beijing, there are skyscrapers all around with just about as many cranes putting up new skyscrapers making for the most impressive skylines I have ever seen.

As China develops in the future I feel it will be very necessary for the government to create programs that compensate the poor to even out the income distribution. Also, I feel that sanitary standards need to improve in every walk of life. I feel that simply providing soap and water in most bathrooms would go along way in slowing the spread of diseases such as SARS and Bird Flu.

#### Agriculture

Touring the rural parts of China was the part of the trip I was most excited about. I imagined it would be a glimpse into our own agricultural past. I was right in some regards, with ox pulled equipment and hand hoed corn. This was different; China's agriculture is a spectrum of cutting edge technologies to hundred-year-old practices.

At Jilin University much research was being done on biotechnology. Planting Biotech corn with an ox drawn sled planter? You bet. That's the flavor of China's rapid modernization. Making leaps and bounds by adopting the latest technologies and avoiding the sunken costs, we have faced in our incremental development.

It was amazing to me to see how they planted every part of their land possible even between trees

in orchards or along riverbanks. I was very impressed how straight their rows were particularly since they were usually planted with a 1-row planter. The countryside was very well manicured with tree-lined roads to prevent wind erosion. There were hardly any weeds to speak of, even though most of the land was tilled by hand or animal. I was very surprised by the number of tree farms all around China. The farms grow and supply trees for transplanting in the cities to reduce air pollution. In fact, the city of Beijing plants over a million trees per year within the city. The gardening and landscaping in the cities was always beautiful and manicured.

Now China's farmers are moving toward mechanization in order to reduce the very strenuous labor in planting and harvesting crops and to increase the food produced per acre. Driving through the countryside we saw a lot of two wheeled rotor-tiller type tractors but also some four wheeled small tractors as well. In the village we visited the government had made machinery cooperative. Farmers rented midsized tractors, implements, and combines to do their farming. I felt that this was a great way for farmers to see the benefits of mechanized agriculture without having to pay a fortune for their own tractor. The machinery available through the co-op was John Deere equipment very similar to what we might use in the U.S.

I believe that mechanizing China's agriculture will no doubt increase China's crop production and make the lives of farmers easier. However, I feel that it will also bring some very big problems to China's cities. Mechanization played a huge role in the development of agriculture in the U.S. It allowed farmers to increase their production and also to farm more land mass. This led to less farmers needed for production agriculture and thus a migration of former farmers from rural America. This has posed big problems for the U.S. throughout the last century. With over three-quarters of its very large population still farming, China may not be able to cope with the loss of jobs that mechanization probably will bring. With unemployment already high and populations nearly maxed out in China's cities, a mass migration to urban areas could spell disaster and stifle the stunning growth of China. I can even see the corporate world buying up Chinese farmland and starting huge modern farms similar to the U.S. This would result in huge job losses. However land is still under government control, which I think is paramount to preventing a corporate farm catastrophe. China's most abundant resource has always been labor so I am very skeptical that mechanization, which reduces labor input, is the best way to go. However, mechanization is growing in

China and I feel that the cooperative form of machinery sharing is a very good road to follow.

### Conclusions

I believe that this era of China will prove to be the greatest era in China's very long history. The country is changing so fast and many of the students said their lives had gotten so much better in the past 5 to 10 years. I believe that this trend will continue but there may be some serious problems that must be addressed. I would like to conclude with some of my overlying thoughts about China.

The Chinese government has done well so far in guiding the record-breaking growth of the nation. Pollution has and will always be a problem in China because of the number of people who live there. Fortunately, the government has been very proactive in encouraging the use of "green" technologies and the planting of conservation plants. I saw many energy saving devices from solar powered water heaters to escalators that shut down automatically when not in use. Preserving the environment is a critical factor in sustaining the long-term success of China.

The income gap between the upper and lower classes must be reduced. Jobs must be created for an already huge workforce and not destroyed by the creation of larger farming operations. The

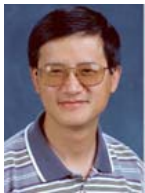
educational focus of China must be maintained and maybe someday an influx of knowledge-based jobs will come to the highly competitive workforce of China. I believe that the people and economy of China would benefit greatly from an increased focus on sanitation. With people so close to each other diseases can spread fast and China has recently been the birthplace of the most serious diseases in recent years. I think that China should do whatever possible to prevent the spread of diseases that could turn into global pandemics.

Overall, China is a very exciting place with huge potential. It is jam-packed with very nice, hardworking people that have a cultural heritage to be proud of. This heritage made my China Studies a unique and exciting educational experience. Things are getting better and better fast. My parents were anxious about my China Studies because it was just a short while ago that Nixon was "received" in China and opened China's doors to the Western World. It is unreal to them that their son, a farm boy from Kansas has had the opportunity to interact with students of China. I am fortunate to have had this chance because I believe the students we met at Jilin University will be part of the greatest generation China has ever known.

#####

## Minutes of AOC Board Teleconference

*By Juhua Liu*



Juhua Liu

**Date:** Friday, November 3, 2006

### **Members Attendees:**

Xiusheng Yang, Shaojin Wang,  
Ruihong Zhang, Juming Tang,  
Chenghai Yang, Donghai Wang,  
Zhongli Pan, Lingjuan Wang, Joan  
Wu, Juhua Liu, Haitao Xiang,  
Zhiming Qi, Jun Zhu

### **Agenda**

1. Call to order
2. Approval of the old minutes
3. Announcements (Xiusheng)
4. Committees: formation and action plans (Committee Chairs)
5. IMPACT Newsletter (Shaojin)
6. ASABE Annual Meeting China Exchanges Session (Chenghai)
7. CSAE (Zhongli)
8. Student Activities (Haitao)
9. Other affairs
10. Next meeting

AOC President Xiusheng Yang called the meeting to order. Board members approved last Board meeting minutes. He explained several board members (Qiang Zhang was in Yang Lin; Roger was in China) were in China trip. He also sent a greeting email to President of North West University of Agricultural Science and Technology.

The State Council's Office of Overseas Chinese Affairs would hold a Central China Agricultural Forum. We would explore a possibility of cooperation with them. Who may have time to participate at the forum?

### **Fund Raising:**

Xiusheng suggested past AOC Chairs be in board member. Juming would send the foundation document to members for review.

### **Nomination:**

Ruihong reported for Nomination committee, and suggested the committee should include past

AOC Chairs such as Juming, Qiang Zhang. Open discussion suggested the committee should have a student member.

### **Membership:**

Chenghai brought lifetime membership issue on board. Two year ago, the issue was put on voting, but no agreement was reached. Regarding student membership, he suggested students managed their own membership and fee, and found a way for student conveniently to use the account. Students can pay their membership due at annual meeting on site.

### **Planning Committee:**

China Exchange session would be planned on Tuesday afternoon. We must choose "Invited speakers" and topic. Open discussion indicated general subject would be better, and six speakers have been planned when AOC submits the plan to ASABE. No detail is necessary for the plan right now.

#### *AOC Section Detail*

Chenghai would be in charge of program. China Exchange session will be following by AOC business meeting and banquet. In addition, Lingjuan and Joan would work together to plan two meetings and select restaurant for the banquet.

It was said that there would be hundred participants from China. Open discussion suggested two plans for the representatives from China are involved in AOC activities. One is to invite part of them into our activities; another is to plan a separated activity because of large number of participants.

#### *Haitao reported SAC recent student activities:*

- Qi Zhiming at Iowa State has been selected vice president for student.
- SAC modified the student webpage, the content has been enriched.
- A survey of counting the ABE Chinese students in North America has been accomplished. Based on our result, there are about 160 Chinese students are studying in ABE field in US and Canada right now. Most of those students are not student members, SAC are planning to encourage them to join AOC.
- A new student email list has been established. From now on, the email sent to [aoc\\_student@googlegroups.com](mailto:aoc_student@googlegroups.com) will be received by all Chinese students on the list. It is very convenient to distribute message to students.

- SAC are still working on the AOC T-shirt design and plan to call for a design competition among the Chinese Students to attract more students to get involved in our activities.

Shaojin specified that next issue of IMPACT would be on 12/23/2006. It would cover Ruihong's industry exhibition, and the university spotlight on University of Idaho which has not been introduced on IMPACT. North Carolina State University and Purdue University will the next two University Spotlights. Zhongli is selected for feature story in this issue.

Zhongli talked about China Exchange with participating in 8<sup>th</sup> CSAE conference next year and exploring possibility of cooperation. Also he mentioned CIE activities. CIE will be holding conference next year, and has started some activities in China, AOC could be involved in it as a Chapter, and explore cooperation opportunity.

Xiusheng proposed the next board meeting (3:00 pm central time on Jan 5, 2007). As usual, the board meeting takes place on first Friday at another month.

With no other new business, the AOC Board teleconference was adjourned at 4:28 PM CST by President Xiusheng Yang.

**Date:** Friday, Jan. 5, 2007

#### **Members Attendees:**

Shufeng Han, Juhua Liu, Zhongli Pan, Juming Tang, Lingjuan Wang, Shaojin Wang, Joan Wu, Haitao Xiang, Chenghai Yang, Xiusheng Yang, Naiqian Zhang, Qiang Zhang, Jun Zhu, Yanbin Li.

#### **Agenda**

1. Call to order
2. Approval of the old minutes
3. Announcements
4. Fundraising (Fundraising committee members)
5. Visit of MOE (Ruihong and Zhongli)
6. AOC collaboration with Northwest A&F University (Qiang)
7. Other businesses
8. Next meeting
9. Adjourn

AOC President Xiusheng Yang called the meeting to order. Board members approved the last Board meeting minutes. Mr. Yang asked several board members to report the progress. Some of the members could not join in because the teleconference dialer number was limited to 12.

Zhongli (and Ruihong) reported their visit to the Ministry of Education in Beijing, China. He met several officers from the Division of International Cooperation there. According to Liu Baoli (associate director of the division of education), Zhongli

quoted that the Chinese government would send about 7000 visiting scholars to the US. Zhongli offered a collaboration and bridge roll in relevant academic areas. AOC members could host relevant visiting scholars from China. He also indicated that each AOC member could provide help to those who are interested in agricultural, biological, and food engineering. The division expressed their interest of inviting AOC members for cooperation.

Juming gave his support that AOC could provide the Database, and indicated that the Newsletter had introduced several universities. Xiusheng was wondering if there would be any follow-up actions after helping and contacting individuals, and what kind of assistance AOC could provide.

In addition, Xiusheng and Yanbin added some suggestions of profiles for members and universities such as adding a link to a personal web and the university's web to the AOC Web.

### **Fund Raising:**

Yanbin reported fundraising activities and planned to visit China in February. He would carry essential materials of calling for donations to China. He suggested that the funds should be accumulated little by little. The funding/donation is not only from organizations (large and small companies), but also from individuals who also have valuable resources.

Shufeng added some comments regarding donations. He noted that the donations are a win-win situation for donators and AOC. Nonetheless, we should still convince people to why they should donate to AOC.

Zhongli suggested a Web count could be considered as a marketing tool.

Juming added that the foundation should have an independent account and manage it separately from the general operations of the AOC account. The Foundation should not be a major part of the AOC operation expense source, but as an accumulation of funding sources. It should be appreciated for the future. For instance, we can use the funding of 10% or 20% for AOC operation. Later on, we can use the interest of the funding for other operations such as awards, scholarship, annual meeting banquets, inviting guests, and Chinese exchange programs. Of course, we can discuss more about the specifics of when and where we should use the funding resource. Xiusheng planned to complete the documents, created a color brochure, presented to the fundraising committee, and distributed it to anyone who needs it for fundraising.

Zhongli asked for a motion/vote of cooperation with the Division of International Cooperation from the Ministry of Education. If we have the ability to do something in assisting for 7000 visiting scholars,

then we should be involved in it. The AOC members voted and agreed to it. Zhongli was willing to write a proposal and/or sample to send to AOC members.

Chenghai talked about the cooperation with NW A & F University, and indicated the University presidents were very interested in it and have planned to establish a center station for cooperation.

Qiang reported the progress of inviting guests. There were three candidates that had been invited, and two of them had accepted/confirmed. He reported a trip to NW A & F University in China with a delegation from the College of Agriculture and Dean of the college. The delegates met President Yang. In addition, we discussed the possible cooperation with AOC, and hold periodical forums between NW A & F University and AOC. NW A & F would prepare for it.

Juming suggested we organized a group or a team for when we would go there.

Furthermore, the AOC members discussed the type of activities of cooperation such as seminars, project collaborations, and management of the cooperation. Suggestions included that both AOC and NW appoint two people to coordinate the activities. The cooperation could be named as the "AOC and NW Forum". Clearly, it could be considered as a topic at the China Exchange section. The program should be prepared at least one year in advance with NW. In regards to the funding for the cooperation, the NW A & F could grant part of it. In addition, we could invite students from both countries as visiting scholars too.

Xiusheng suggested Chenghai and Qiang would be coordinators as Chenghai is an alumnus of NW A & F. He would be a volunteer.

### **Planning Committee:**

Chenghai reported the progress for the China Exchange session and emphasized that selecting an appropriate topic(s) for China Exchange section would be very important in order to make the section interesting for attendees. He articulated that the banquet must be well prepared. Because the ASABE banquet would be on Tuesday, the AOC business meeting would be on Monday. Lingjuan and Jun have been working on it.

Haitao reported recent SAC student activities:

- T-Shirt design contest: open to all students
- T-Shirts would be made in China. They cost about RMB 4.00 for each. We planned 400 shirts.
- AOC would present an award to the contest winner.

Chenghai suggested that the AOC provide SAC with a startup fund for T-Shirts.



Xiusheng approved the student-sponsored design, and provided \$1000 for the startup. Then, the sale of T-Shirts could be a part of the fundraising activities. After sales, the collected money would be returned back to AOC, including the startup of \$1000. Xiusheng requested a vote for the plan: \$5.00 each, a total of \$1000 for making 200 AOC T-shirts. All present members approved the plan.

Xiusheng proposed the next board meeting (3:00 pm central time on March 2, 2007). As usual, the

board meeting will take place on the first Friday every month.

With no other new businesses, the AOC Board teleconference was adjourned at 4:37 PM CST by President Xiusheng Yang.

Juhua Liu edited

AOC Board Secretary [2006–2007]

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## University Spotlight: North Carolina State University

*By Lingjuan Wang and Jay (Jiayang) Cheng*

**NCSU BRIEF:** North Carolina State University (NCSU) is a land-grant university in North Carolina,



Lingjuan Wang



Jay (Jiayang) Cheng

located in Raleigh, the capitol city of the state. Raleigh is one of the oldest cities in the US. It is a beautiful city

in all seasons and has experienced a tremendous growth in recent years. North Carolina State University is the largest university of 16 state universities in North Carolina. It is a nationally recognized leader in science and technology with historic strengths in agriculture and engineering. The student population is about 30,000, majoring in 102 fields including agriculture, engineering, natural sciences, social sciences, education, design, natural resources, management, textile, and veterinary medicine. NC State is ranked 6th in technology strength of patents, 7th among national research universities in industry-funded research, and 12th among national research universities in non-federally funded research. A unique signature of North Carolina State University is its research park on Centennial Campus, which is home to more than 100 companies and agencies. Working in an advanced technology community, university, industry and government partners produce scientific and technical innovations.

NCSU also offers an exciting cosmopolitan lifestyle unlike many university towns in the U.S. Located in the capital of North Carolina, and being in close proximity to two other nationally known universities (University of North Carolina-Chapel Hill and Duke University), NCSU offers a unique professional and social environment. The region in and around each of the three universities offers its

own culture and unique characteristics. NCSU is close to the ocean and the mountains, providing numerous opportunities for a wide variety of extracurricular and recreational activities.

**Department of Biological and Agricultural Engineering (BAE):** <http://www.bae.ncsu.edu>

The Biological and Agricultural Engineering Department at North Carolina State University is the first one of its kind in the nation offering Biological Engineering degrees. The department has strong programs in water quality, waste management, bioprocessing, air quality, and precision agriculture. It is a nationally recognized leader in water quality and animal waste management. DRAINMOD developed by Dr. Wayne Skaggs' group has been widely used around the world as a tool for agricultural drainage. The integrated system of energy production and nutrient utilization for swine manure management developed by the waste management group has been recognized as a model for hog farms in southeastern US. The watershed management and stormwater management extension programs developed by the water quality group have made a great impact in agriculture and environment in North Carolina and the nation.

The department offers two undergraduate degrees: B.S. in [\*Biological Engineering\*](#) (an engineering degree) and B.S. in [\*Agricultural & Environmental Technology\*](#) (a technology degree).

The B.S. degree program in Biological Engineering allows students to choose electives that lead to the following three concentration areas as it uniquely prepares them to solve 21st century biological and agricultural engineering problems: *(1) Agricultural Engineering* trains students to creatively apply scientific principles in the design and development of new agricultural products, systems, and processes for the conversion of raw materials and power sources into food, feed, and

fiber while protecting the environment and worker health and safety. (2) [Bioprocess Engineering](#) includes not only food engineering courses, but also post-harvest handling and processing of crops before they reach the processing plants. Application areas commonly associated with our bioprocess engineering include the production of biofuels, design and operation of fermentation systems, development of food processing systems, application and testing of product separation technologies, design of instrumentation to monitor and control biological processes. (3) [Environmental Engineering](#) trains students to deal with the challenges posed by a growing population, intensifying land-use pressures, rapidly evolving technology, and increasing governmental regulation. Application of environmental technologies includes air and water quality control and waste management.

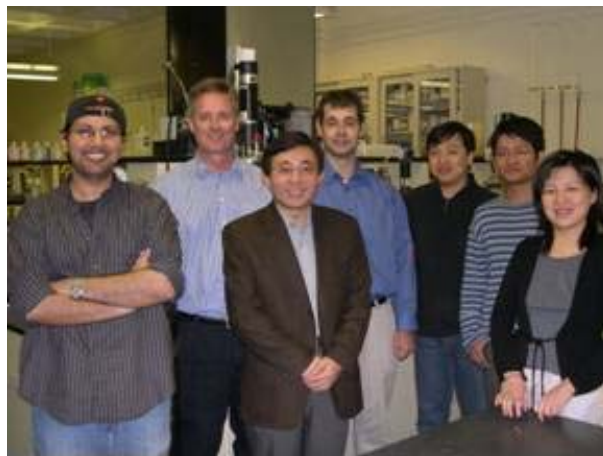
The B.S. degree in [Agricultural & Environmental Technology](#) provides a technique-oriented program focused on the flexibility needed for success in today's agricultural and environmentally-challenged society. The flexibility of the program allows the students to focus their interest in [Machinery Systems](#), [Environmental Systems](#), and [Agribusiness](#).

In addition to its undergraduate program, BAE graduate programs offer students the opportunity to obtain a world-class graduate education in the fields of environmental engineering, bioprocess engineering, and machine systems design and control. The departmental graduate programs include [MS](#), [MBAE](#) and [PhD](#) degrees, as well as a [Graduate Certificate](#) in the Design and Analysis of Environmental System: Watershed Assessment and Restoration. The MS and PhD are research-oriented degrees for graduates who wish to conduct research in a specialized field. The MBAE is a non-thesis Master's degree recently redesigned to accommodate working professionals who need advanced education but do not desire a career in research. Over 50% of this degree requirement can now be completed via Distance Education (DE) courses. The graduate certificate is designed for environmental professionals who wish to enhance their graduate credentials without investing the time, effort and expense required for a graduate degree. The certificate is available via DE.

Two faculty members, several research associate and graduate students in this department are from China.

### **Jay (Jiayang) Cheng's Research Program:**

Dr. Jay Cheng is an associate professor in the NCSU's BAE Department, with expertise in animal waste management and renewable energy production. Dr. Cheng is a native of Jiangxi Province in China. He received his B.S. degree in Chemical



*Dr. Jay Cheng (3<sup>rd</sup> from left) and his research team at NCSU*

Engineering from Jiangxi Institute of Technology (now called Nanchang University), M.S. degree in Biological Engineering from St. Cyril & Methodius University in Macedonia (former Yugoslavia), and Ph.D. degree in Environmental Engineering from University of Cincinnati. Dr. Cheng joined NCSU faculty in 1997. His research has been focused on development of innovative technologies for animal waste management and conversion of agricultural waste materials into biofuels. Dr. Cheng's recent research projects include: high-rate anaerobic digestion of swine manure for methane production, swine wastewater reclamation for greenhouse tomato production, nutrient recovery from animal wastewater with growing duckweed, intermittent aeration for nitrogen removal from swine wastewater, bioconversion of coastal Bermuda grass into ethanol, and genetically engineer switchgrass for enhanced ethanol production. His research philosophy is to address the agricultural waste caused environmental problems and energy concerns simultaneously by converting agricultural wastes into renewable energy sources. As described in a recent article about Dr. Cheng's research program on a NCSU magazine "Perspectives", Dr. Cheng is trying to use one stone to hit two birds. Dr. Cheng is very active in international collaboration. He has

close ties with colleagues in China, including collaborative research, guest professorship, and seminars. He was also selected by the US State Department as a Fulbright scholar to teach and conduct research in Bulgaria for half a year in 2005. More information about Dr. Cheng's program is available at

<http://www.bae.ncsu.edu/people/faculty/jcheng3>

**Lingjuan Wang's Research Program:**



*Dr. Wang (right) on a layer (egg) farm with the farm manager for an air emission study*

Dr. Lingjuan Wang is currently an assistant professor in agricultural air quality engineering in the Department of BAE at NCSU. Before joining NC State in January 2005, she received her M.S. and Ph.D. degrees in Biological and Agricultural engineering at Texas A&M University, and a B.E. at Anhui Institute of Finance & Trade, where she was

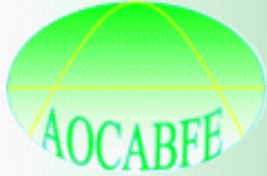
trained to be an engineer in Cotton Engineering. Dr. Wang specializes in air quality engineering. Her research interests include air pollution abatement system design; air quality sampling and monitoring; air dispersion modeling; animal housing, environmental management and agricultural processing.

Dr. Wang and her research team have been devoting their best efforts to address various aspects of air emission problems from animal feeding operations (AFOs). Several ongoing projects and independent studies under her guidance include: (1) investigation of NH<sub>3</sub> volatilization from broiler litter; (2) application of ozonation technology for reducing NH<sub>3</sub> and pathogens in broiler houses; (3) study of different techniques for determination of NH<sub>3</sub> emission fluxes from broiler litter; (4) characterization of particulate matter emitted from animal agriculture; and (5) odor and particulate matter dispersion modeling.

Dr. Wang is also the principal investigator for an air emission study from a layer operation in North Carolina, which is a part of the National Air Emission Monitoring Study (NAEMS) under the U.S. EPA Air Compliance Agreement for AFOs.

Currently, Dr. Wang teaches an undergraduate/graduate course entitled "Aerosol Mechanics" at NCSU. More information about her teaching and research program is available at <http://www.bae.ncsu.edu/people/faculty/lwang5/>

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Association of Overseas Chinese Agricultural,  
Biological, and Food Engineers (AOCABFE)

海外華人農業、生物及食品工程師協會

## Call for Donations to AOC

### AOC 募捐书

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##### **Shufeng Han, Ph.D., AOC Past Fundraising Committee Chair and Board Member**

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#### **Mission of AOC Foundation**

AOC Foundation was founded in 2005. Its mission is to raise funds to further promote AOC, to encourage overseas Chinese students, Chinese scholars, and international friends to participate in AOC activities, and to help international scientists/engineers and government officials better understand and help China in its endeavor to improve agricultural, biological, and food technologies. The funds will be used to support the following activities:

- 1) Providing Chinese Graduate Student Awards:
  - Leadership and Service Award,
  - Scholarly Achievement Award;
- 2) Providing Chinese Graduate Student Scholarship;
- 3) Hosting Chinese visitors during ASABE and AOC annual meetings;
- 4) Sponsoring “China Exchange Sessions” at



- ASABE and AOC annual meetings;
- 5) Inviting international friends to AOC activities;
  - 6) Other activities.

### AOC 基金会宗旨

AOC基金会成立于2005年，其宗旨是募集资金，用以鼓励海外中国留学生以及国内外学者积极参与AOC的各项活动，并帮助各国农业工程领域的科学家和工程师，以及政府官员更好地了解中国并最终帮助中国不断发展。AOC基金会现为以下活动募集资金助：

- 1) 中国留学生奖励：
  - 领导才能与服务奖；
  - 学术成就奖。
- 2) 中国留学生奖学金；
- 3) ASABE及AOC年会期间接待中国访问学者；
- 4) ASABE及AOC年会期间举办“中国交流”活动；
- 5) 邀请国际朋友参加AOC活动；
- 6) 其他活动。

### Introduction to AOC

The Association of Overseas Chinese Agricultural, Biological, and Food Engineers (“AOC”) is a professional organization of scholars and students of Chinese origin, who engage in scientific research and higher education in North America, Europe, and Asia. Its mission is to strengthen communication and cooperation among overseas Chinese agricultural, biological, and food engineers worldwide; to facilitate transfer of advanced technologies; to promote technological innovation and development in agriculture and agricultural-related fields in China. AOC was established in 2001. It has 170 members worldwide. Most AOC members work in universities, research institutes, government agencies, and industry, playing important roles in scientific research, education, and extension. Many AOC members have gained tenures in their respective institutions, some have assumed leadership, and many have become influential in the agricultural, biological, and food engineering fields worldwide. According to a statistic gathered in 2000, more than 20 % of the papers published in *Transaction of ASABE* were authored or co-authored by overseas Chinese

scholars, who represented only 2% of the ASABE membership. Furthermore, 15% of the *Transaction* papers had overseas Chinese scholars as the first authors. Since 1997, more than one quarter of the ASABE Superior Paper Awards were presented to overseas Chinese scholars. More than 20 Chinese scholars have become Editors or Associate Editors in various divisions of ASABE. More than 40 Chinese scholars have assumed leadership on various committees within ASABE and other professional societies.

After its establishment, AOC has been extremely active in promoting the cooperation and communication between China and other countries. AOC has co-sponsored international conferences with the International Commission of Agricultural Engineering (CIGR) and Asian Association for Agricultural Engineering (AAAE). In June, 2002, AOC co-sponsored with Chinese Society of Agricultural Engineering (CASE) and the Agricultural Engineering Appraisal Team of the State Department Degree Committee the “Conference on Development Strategy for Agricultural and Biological System Engineering Technology and Education” (“YangLing Meeting”) at Northwest Agriculture & Forestry University. In December of the same year, AOC co-sponsored the “Forum on Agricultural and Biological System Engineering Technology and Education Development Strategy” (“Hangzhou Meeting”) with Zhejiang University. These two conferences have been considered by Chinese agricultural engineers as important milestones in the history of agricultural engineering development in China, and have played important roles in updating Chinese educational and research institutions with cutting-edge development and promoting reforms in the educational curricula of agricultural, biological, and food engineering. Over the past few years, AOC members have explored and developed new opportunities and potentials for cooperation. From 2002 to 2004, more than 30 AOC members offered seminars and short courses for undergraduates and graduate students, and conducted cooperative research in China using their vacations or sabbatical leaves. Some AOC members helped Chinese universities establish world-class laboratories and developed cooperative research projects.

In order to further promote AOC, to encourage overseas Chinese students, Chinese scholars, and international friends to participate in AOC activities, and to help international scientists/engineers and government officials better understand and eventually help China in its endeavor to improve agricultural technology, AOC has decided to establish the AOC Foundation in 2005. We believe

the Foundation will play critical roles in the sustainable development of AOC.

## AOC简介

海外华人农业、生物和食品工程师协会(简称“海外农工协会”，英文简称“AOC”)是一个由在北美和欧亚从事科研与高等教育的华人教授、专家、学者，以及归国留学生组成的学术组织，其宗旨是加强中国与世界华人农业、生物及食品工程领域的交流与合作，促进先进技术转移，推进中国农业及农业相关领域的科技创新和跨越式发展。AOC成立于2001年，现有一百七十名会员，涵盖美国、加拿大、中国和欧亚数国。他们大多在高等院校、研究所、政府部门和工业公司任职，在科研、教育和推广应用方面起着举足轻重的作用。他们当中有一部分人已经成为著名大学的终身教授并担任了领导职务，成为在世界农业、生物和食品工程界颇具影响的著名学者。根据我们在2000年所做的统计，仅占美国农业与生物工程师协会会员人数百分之二的华裔学者在美国农业工程学报上发表的论文，每年都在百分之二十以上。其中华裔学者为第一作者的，每年都占百分之十五以上。自1997年以来，美国农业工程学报的优秀论文奖，每年都有四分之一以上颁给了华裔作者。二十多位华裔学者成为了美国农业工程学报各分刊的正副编委，四十多位担任了学科委员会主席，涵盖农业与生物工程的各个领域。

AOC成立之后，积极推进中外合作交流，并与世界农工学会和亚洲农工学会合作主办学术会议。2002年6月，AOC与中国农业工程学会和国务院学位委员会农业工程学科评议组在西北农林科技大学联合主办了“农业与生物系统工程科技与教育发展战略研讨会(杨陵会议)”。同年12月，又在浙江大学联合举办了“农业与生物系统工程科技与教育发展战略高层论坛(杭州会议)”。这两次会议被国内农业工程界视为中国农业工程发展史上具有里程碑意义的重要事件，对推动和

帮助有关高等院校和科研院所了解当代农业、生物和食品工程科技发展，研究国际发展前沿和推进教学改革研究起到了重要作用。近年来，通过会员的集体努力，AOC不断开发新的合作和发展潜力。从2002年到2004年，AOC的二、三十位教授、副教授分别到国内一些大学和科研机构开设专题学术讲座和利用学术休假到国内为本科生和研究生开设新课程和开展合作课题研究，有的帮助国内院校建立起世界第一流的实验室，有的还发展了合作科研项目。

为了进一步促进AOC的发展，鼓励海外中国留学生，海内外华裔学者，以及世界各国朋友积极参与AOC举办的各项活动，并帮助各国农业工程领域的科学家和工程师，以及政府官员更好地了解中国并最终帮助中国农业科学技术不断提高，AOC决定于2005年成立基金会，为各项活动募集资金。我们相信AOC基金会必将为AOC的可持续性发展发挥重要作用。

## How will the donors be acknowledged?

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3. Presenting certificates to the donors at AOC annual banquets for donations greater than \$1000;
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AOC would like to thank the following previous donors:

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- College of Biosystems Engineering and Food Science, Zhejiang University
- College of Information and Electrical Engineering, Shengyang Agricultural University
- Chinese Consulate General in Houston
- College of Engineering, China Agricultural University
- Chinese Academy of Agricultural Mechanization Sciences

### Year 2003

- South China Agricultural University
- Batian Fertilizer Company in Guangdong Province
- Consulate General of China in San Francisco

### Year 2002

Chinese Consulate General in Chicago

## 捐助单位名单

AOC感谢以下捐助单位：

### 2005年

- 浙江大学生物系统工程与食品科学学院
- 沈阳农业大学信息与电力工程学院
- 中国驻休斯顿总领事馆
- 中国农业大学工程学院
- 中国农业机械科学研究院

### 2003年

- 华南农业大学
- 广东省芭田化肥公司
- 中国驻旧金山总领事馆

### 2002年

- 中国驻芝加哥总领事馆



*President Luo Xiwen of South China Agricultural University (SCAU) talks with AOC members at the AOC banquet in Las Vegas. SCAU and the Batian Company have been the biggest donors to AOC, contributing \$2,500 in 2003.*



*President Chen Zhangliang of China Agricultural University meets with AOC members in 2003. President Chen was invited to give speeches on the Second East-Asia Forum on Bioproduction and the Third "China Exchange" session of ASABE in Las Vegas.*

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