

Research Roundtable Summary

At the China-U.S. Relations Conference held in Beijing in November 2005, a series of research roundtable sessions provided open forums for scientists from China and the United States to discuss the newest scientific and technological advances important to both countries. The roundtable sessions addressed the critical role of scientific and research collaboration between the two countries, effective methods of scientific and technological cooperation, and major obstacles in scholarly exchanges. Various locations in Beijing served as hosts for the sessions, including Peking University, the China University of Geosciences, the National Academy of Educational Administration, the China Academy of Traditional Chinese Medicine, and the Hotel Kunlun.

Roundtable session topics were selected by a rigorous submittal and review process and were co-chaired by Chinese and American scholars. Conference participants from around the world contributed to the discussions on collaborative research opportunities in various strategic areas, as follows:

- Altered Landscape and Environmental Response to Transformations (ALERT)-2: Coastal Monitoring, Preservation, and Restoration
- China Archive/China Survey
- China-U.S. Collaboration on Green Food and Agro-Produce Pathway (GFP) to Expedite Bilateral and International Agro-Trades
- Critical Roles and Administrative Competencies in Building Institutional Research Capacity
- Crop Improvement through Biotechnologies (CITB)
- Deepwater Offshore Technology
- East Asia and the United States in the Age of Globalization
- Emerging Infectious Diseases in China
- Environmental Concerns and Birth Defects Research in China
- Gender Policy and HIV in China
- Higher Education Intellectual Property Rights and Technology Transfer
- Information Technologies and Applications
- Learning and Growth of New Technology Ventures in China's High Technology Industries
- Quality of Life Issues in Contemporary Chinese Cities: The Impacts of Rapid Growth and Change in the Form of Neighborhoods and Housing
- The Role of Non-Conventional Hydrocarbons in Meeting the Growing Energy Demand
- Treatment of Eye Diseases with Chinese Herbs and Their Active Principles
- Wetland Conservation, Nature-Based Tourism, and Rural Economic Development

Some of these discussions began during the 2003 conference hosted at Texas A&M University. Scholars and researchers on both sides are actively following up on the ideas generated or advanced during these sessions. Texas A&M University is working on formal mechanisms for accelerating research and scholarly activities between China and the United States. More detailed summaries of the research roundtable sessions follow.

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ALERT-2: Altered Landscapes and Environmental Response to Transformations (ALERT)

Co-Chairs

- U.S.:** Mahlon C. Kennicutt II, Texas A&M University
Virginia Burkett, US Geological Survey
- China:** Qixiang He, China Geological Survey

Other Collaborators

- US:** Lisa L. Robbins, U.S. Geological Survey
Gregory J. Smith, US Geological Survey
Dawn Lavoie, US Geological Survey
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- China:** Qiming Peng, China Geological Survey
Yongqing Zhou, Qingdao Institute of Marine Geology
Xunhua Zhang, Qingdao Institute of Marine Geology
Jian Liu, Qingdao Institute of Marine Geology
Kelvin Zhuang, Qingdao Institute of Marine Geology
Siyuan Ye, Qingdao Institute of Marine Geology
Shengjie Wang, Qingdao Institute of Marine Geology
Jinyu Yang, Qingdao Institute of Marine Geology
Zhen Xia, Guangzhou Marine Geological Survey
Jinqing Lin, Qingdao Institute of Marine Geology
Yalin Lei, China University of Geosciences (Beijing)
Ke Hu, China University of Geosciences (Beijing)
Nianqiao Fang, China University of Geosciences (Beijing)
Haifeng Yu, Tianjin Institute of Geology and Mineral Resources
Hong Wang, Tianjin Institute of Geology and Mineral Resources
Xiaoming Sun, Tianjin Institute of Geology and Mineral Resources
Yucheng Chai, National Natural Science Foundation of China

Session Summary

A series of organizational and programmatic presentations were provided by the various participating groups to set the stage for in-depth discussion of future partnerships. A series of projects for collaboration were presented by the Chinese partners. Discussions were concluded agreeing to develop a strategic plan organized around a series of action items. Areas of mutual interest include: monitoring and prediction of natural hazards in coastal regions; evaluation of offshore China oil and gas resources (including gas hydrate); integrated studies of coastal wetland ecosystems; human impacts and disturbances along coastal margins; construction, synthesis and utilization of geological databases (including modeling of all types); and coastal impacts due to water diversion projects.

Findings and Recommendations

Based on the common interests and needs of both countries, previous intergovernmental agreements and a series of exchanges and planning activities, the China-U.S. ALERT team proposed the following actions to advance a common research agenda.

- 1) Amend the “Agreement of Sino-U.S. Intergovernmental Scientific and Technological Cooperation” to include all aspects of research on coastal environmental issues that will support sustainable development.

- 2) Form a China-U.S. ALERT Coordinating Committee to lead further development of partnerships and programs – It was agreed that membership would initially be Mahlon C. Kennicutt II (Chair), Texas A&M University; Qiming Peng (co-Chair), China geological Survey; Dawn Lavoie, U.S. Geological Survey; and J. Liu (Secretary), Qingdao Institute of Marine Geology, China Geological Survey.
- 3) Develop and sign a Memorandum of Understanding between Texas A&M University and the China University of Geosciences (Beijing) to establish them as a full team partner.
- 4) Form groups to focus the efforts of core research areas of mutual interest to initially include Working Groups on Coastal Processes, Geochemical Processes, and Geospatial and Information Technologies and Databases.
- 5) Develop projects to synthesize existing data especially targeting comparative studies in China and the northern Gulf of Mexico.
- 6) Plan for joint peer-reviewed publications, joint sessions at scientific meetings, and convening of workshops and training sessions.
- 7) Continue exchange visits and work on more formal exchange programs at all levels including scientists, students, technicians.
- 8) Explore opportunities for joint field programs and collection of new data in support of common research interests.
- 9) Plan for ALERT-3 to be held in 2007.

Future Collaboration and Justification

It was recognized by the team that the generation of new, large cooperative data collection/field survey programs was the most challenging activity to pursue as funding for such programs is difficult to attain. The team agreed that in the short-term (1-3 years) many less costly activities such as those outlined above could be more readily organized and conducted. It was also considered that activities that built on existing programs had the potential to bring added value to all partners. Short-term activities will deepen and strengthen partnerships setting the stage for more complex programs in the longer-term (3 – 10 years). In the meantime all partners will be exploring a variety of avenues for attaining funds to support both short – and long-term objectives and programs. Based on these discussions the following actions are planned:

- 1) Determine what is necessary to propose an amendment to the 1979 the “Agreement of Sino-U.S. Intergovernmental Scientific and Technological Cooperation” during its next renewal in 2006.
- 2) Each organization will confirm its representative to the ALERT Team Coordinating Committee.
- 3) Texas A&M University and the China University for Geosciences (Beijing) will jointly negotiate a Memorandum of Understanding that includes a definition of roles of each institution in regard to the China-U.S. ALERT Team
- 4) Each Organization will name representatives to the Working Groups and each working group will select a Chairperson.
- 5) Working groups will identify available data sets and develop a short list of potential joint data synthesis projects that could lead to publications.
- 6) Working Groups will identify a short list of potential joint projects and venues for sessions at national and international meetings.
- 7) The Coordinating Committee will develop formal mechanisms to facilitate exchanges among programs and identify financial resources to make exchanges feasible.
- 8) The Coordinating Committee and Working Groups will identify and explore potential sources of funding for joint projects.
- 9) The Coordinating Committee will begin preliminary discussions about the format and content of ALERT-3 to be held in the fall of 2007.

Other Information

Partnerships between the USGS and Texas A&M University in the Gulf of Mexico are being further explored, and more information will be available after several scheduled meetings in January to February, 2006 take place. These meetings include internal planning meetings at USGS and a USGS visit to the Texas A&M University campus. There are also opportunities expected from the return of federal dollars related to offshore oil and gas exploration and exploitation activities to the State of Texas for research on coastal issues and mitigation of environmental impacts. Potential funding opportunities for projects in China are also being explored through the USAID Program, the Asian Development Bank, and other organizations including Foundations with an interest in the region.

Further details of the ALERT-2 Research Roundtable can be found at the China-US ALERT Team web site including the agenda for the Roundtable and the power point presentations that were presented (<http://iaf.tamu.edu/uschinaalert>).

China Archive/China Survey

Co-chairs

Robert Harmel (Political Science Department, Texas A&M University);
Tianjian Shi (Political Science Department, Duke University and adjunct, Texas A&M University)

Other Collaborators

Other participants in the roundtable discussions included relevant Texas A&M faculty from multiple disciplines, colleagues from several major U.S. and Chinese universities, and representatives of Chinese government agencies including the National Bureau of Statistics. Among the group were several with personal experience conducting survey research in China.

In addition to the co-chairs, roundtable participants included:

Ben M. Crouch, College of Liberal Arts and Dep't of Sociology, Texas A&M University;
Dudley Poston, Department of Sociology, Texas A&M University;
Stephen Atkins, Texas A&M University Libraries, Texas A&M University;
Ian Weber, Department of Communications, Texas A&M University;
Xinsheng Liu, Bush School and Peking University;
Matthew Hoddie, Department of Political Science, Texas A&M University;
Li Gan, Department of Economics, Texas A&M University;

Melanie Manion, Department of Political Science and Public Affairs, University of Wisconsin;
Pierre Landry, Program of East Asian Studies, Yale University;
Victor Shih, Department of Political Science, Northwestern University;
Qinghong Wang, Center for Chinese Studies, University of Hawaii at Manoa;
Haijiang Li, Jesse Jones School of Management, Rice University;

Mingming Shen, Research Center on Contemporary China, Peking University;
Xiaoguang Kang, Center for China Study, Tsinghua University & CAS;
Baochang Gu, Center for Population and Development Studies, Renmin University;
Yeun-Chung Yu, Institute of Population Research, Peking University;
Shangqun Chi, provincial government of Shandong Province;
Jili Wang, Dir.-Gen., Statistical Education Center, National Bureau of Statistics, China;
Nailin Feng, Dir.-Gen., Department of International Cooperation, National Bureau of Statistics, China;

Randy Kluver, School of Communication and Info., Nanyang Tech. University, Singapore

Session Summary

The purpose of this roundtable was to bring together American and Chinese scholars to discuss potential for and problems of collecting social science data – and particularly survey data – in China, and to begin to lay plans for taking advantage of the potential and surmounting the problems by instituting a biennial, nationwide, social science survey of China, to be called The China Survey. The roundtable and The China Survey project were designed to build upon the faculty initiative which led to establishment of The China Archive at Texas A&M University, currently operated by the Texas A&M University Libraries.

Unlike other conference sessions, The China Archive/China Survey Roundtable was held not on the campus of Peking University but in the Kunlun Hotel, and was held after conclusion of the other roundtables, with sessions on Thursday afternoon and on Friday morning and afternoon. Related discussions also took place during a reception and dinner following the first session and at a luncheon on Friday. The latter events were hosted by the College of Liberal Arts, which also co-sponsored the

roundtable. This more extensive format provided the time necessary to deal with complicated issues involved in social science survey research in China.

The first session began with a brief review of the development of the China Archive Project and introduction to the Archive, and then turned to discussion of the survey research experiences of the roundtable's participants. In the process, both challenges and successes were highlighted, which proved invaluable for the discussions of the proposed China Survey Project on Friday.

The first session on Friday began with discussion of other social science surveys currently underway in China, which led into more general discussion of special and even unique contributions which might be made by The China Survey. The remainder of the morning session and the afternoon session were devoted to pre-planning for The China Survey.

Findings/Recommendations

There was general agreement that The China Survey should be a biennial, multi-disciplinary, social science survey of a nationwide, hierarchical, random sample of adult Chinese citizens. The survey would rely on the most sophisticated sampling strategies, including use of GPS technology, a technique currently being pioneered in China by two of the roundtable's participants. The sampling plan would also involve creation of a smaller *panel* of persons who would be tracked over time and interviewed repeatedly.

There was also agreement that The China Survey would make a unique contribution to social science research on China through its multi-disciplinary nature, thus providing data not only for addressing important research questions within each of the disciplines but also important new questions which require data on combinations of variables spanning two or more disciplines. The survey instrument would include a set of core questions (incorporating those used in general social surveys internationally) plus modules of items on such topics as health, family economics, mass media usage, and political activities. While the core questions would be repeated regularly, some modules would vary from one survey to the next.

In keeping with the mission of The China Archive at Texas A&M University to disseminate data on China to researchers worldwide, the roundtable participants recommended publicly disseminating the data of The China Survey through The China Archive within one year of the data being rendered usable for research.

Discussion of funding possibilities led to recommendations to pursue private foundation support (e.g. Freeman, Luce, Ford) and/or a National Science Foundation (NSF) planning grant to fund planning sessions at Texas A&M University, and a major NSF grant to support the ultimate survey.

Future Collaborations and Justification

During the final session, discussion ultimately focused on how to organize the research team for developing and implementing The China Survey. It was decided that, following the organizational format used by the very successful American National Election Studies, a governing board should be established to make final decisions concerning survey design and content. The membership for the board will include significant representation from each of the following social science communities: Texas A&M University, scholars with extensive China survey experience from other universities within the United States, and colleagues from universities and research institutes in China.

Roundtable participants recognized Texas A&M's strong commitment to China research as evidenced by the impressive conference program and the on-going China Archive Project within Liberal Arts. Accordingly, there was a clear consensus that Texas A&M should administer The China Survey.

Many of the American members of the governing board – both within and outside Texas A&M – have already accepted appointment. (Several of these individuals participated in the Beijing roundtable.) It is hoped that the first planning meeting of the American members will take place later in the spring of 2006, with submission of an NSF planning grant proposal to follow shortly after the meeting. On the agenda for that meeting, among other things, will be selection of the collaborating institute in China which will actually conduct the survey in the field, plus selection of the Chinese members for the board. Subsequent meetings – hopefully to be funded by the planning grant – will include the Chinese members.

Building on other accomplishments of the China Archive Project (the Archive itself and an annual graduate student conference held for the first time in January 2006) and the significant progress made during the Beijing roundtable, The China Survey offers tremendous promise as a vehicle for encouraging and supporting rigorous social science research on China, with value to scholars and policy makers in China, the United States, and elsewhere.

China-U.S. Collaboration on Green Food and Agro-Product Pathway (GFP) to Expedite Bi-lateral and International Agro-Trades

Co-Chairs

- U.S.:** Professor Douglas K. Loh, Texas A&M University
Chinese: Professor Yi Li Peking University and Mr. Zhiwei Guo, Ministry of Science and Technology

Other Collaborators

China Rural Technology Development Center, Ministry of Science and Technology
Chinese Academy of Agricultural Sciences
Beijing Triple Sky Modern Agricultural Science and Technology Corporation
L-3 Technology Corporation
FreightDesk Technologies Corporation
University of Houston

Session Summary

After two days of packed agenda, the China-U.S. Food Safety and Green Pathway Research Roundtable has resulted in the following three consensuses:

1. Promote capacity building at each node along the farm-to-table supply chains, including Good Agricultural Practice (GAP), Good Manufacturing Practice (GMP), Standard Operating Procedures (SOP), Sanitary Standard Operating Procedures (SSOP), Hazard Analysis of Critical Control Points (HACCP) and Green Food Pathway (GFP);
2. Promote effective inter-node connections along the farm-to-table supply chains with an emphasis on the development of a holistic Information and Communication Technology (ICT) Platform; and
3. Develop stakeholder participation mechanisms to expedite collaboration in above areas.

Findings/Recommendations

Based on the consensuses, this roundtable finds that it is of great mutual benefits to further enhance collaborations related to rural construction, food safety and green food pathway by ways of exchange activities, and joint programs on training, extension and technology transfer. The roundtable recommends the following action plans to implement these consensuses:

1. Texas A&M takes the lead to establish an international Green Food Pathway Alliance (GFPA) as the facilitation and coordination mechanism;
2. GFPA and China Rural Technology Development Center (CRTDC) co-initiate the conceptualization and development of a China-U.S. Rural Construction Technology Innovation and Transfer Center consisting of, but not limited to, the following three platforms:
 - An administrative and management platform;
 - A technology innovation and transfer platform; and
 - A project investment/financing platform.

Future Collaborations and Justification

1. Future Collaborations:

Through the Technology Innovation and Transfer Center, accelerate the commercialization of practical technologies pertaining to rural construction, food safety and green food pathway with priorities placed on, but not limited to, the following categories:

- Holistic agro-environmental monitoring and improvement technologies and systems;
- ICT platform for science and technology information exchange, market information exchange and value-chain management;
- Accelerator-based food irradiation facilities and systems;

- Food quality and safety testing and certification systems; and
- Green technologies for agricultural development and small township construction.

2. Justification

China will start its 11th five-year national development program in 2006. The main thrust of the program is on New Rural Construction and on Technology Innovation. With its focus on both of these priorities, the recommended collaborations shall have a very conducive environment for their implementations.

Other Information:

Since 2002 the Chinese Ministry of Science and Technology and the Texas A&M University System have been jointly operating The China–U.S. Joint Secretariat for Science and Technology Collaborations in Agriculture and Social Development. Conveniently housed by and located in CRTDC of the Ministry of Science and Technology, the secretariat has been used to help organize collaborative activities, including this research roundtable. It will continue to be used to expedite the recommended follow-ups to the roundtable.

With the support from many key stakeholders, including USDA, University of Houston, L-3 and others, GFPA has been fortuitously established and housed at Texas A&M University. This professional and academic association is now in a position to help advance the collaborations.

Critical Roles and Administrative Competencies in Building Institutional Research Capacity

Co-chairs

- U.S.:** Bryan R. Cole, Professor, Department of Educational Administration and Human Resource Development
- Chinese:** Professor Yu Jiaqing, Executive Vice-President, Chinese National Academy of Educational Administration

Other Collaborators

- Dr. Hu Xiaotang, Vice President of Tianjin University
- Ma Junjie, Vice President, Renmin University
- Dong Hao, Vice Chairman of People's Congress Council of Heilongjiang Province
- Qiu Jin, Vice President, Xian Jiaotong University
- Ha Jingxiang, Former President of Central University for Nationalities
- Lei Qing, Associate dean of Liberal Arts and Director of Higher Education Research institute, Beihang University
- Li Wenchang, Vice President, National Academy of Educational Administration
- Duan Baoyan, President, Xidian University
- Li Quansheng, Chairman of University Council, Tianjing Polytechnic University
- Gong Hui, Dean of Students, Xian Jiaotong University
- Dr. Mun Tsang, Professor of International and Trans-cultural Studies and Director for the Center on Chinese Education, Columbia University
- Dr. Mark Pomar, President, International Research and Exchanges Board
- Dr. Weihe Xie, Vice-President for Research, Tsinghua University
- Dr. Denis Simon, Provost and Vice president for Academic Affairs, Levine Graduate Institute of International Relations and Commerce, SUNY
- Dr. Xiaobo Yang, Associate Director for International Programs, National Academy of Educational Administration of China
- Dr. Richard Ewing, Vice President for Research, Texas A&M University
- Dr. Christine Stanley, Assistant Dean of Faculties and Associate Professor, Department of Educational Administration and Human Resource Development
- Dr. Marilee Bresciani, Assistant Vice President for Institutional Assessment, Texas A&M University

Session Summary

This roundtable was held at the Chinese National Academy of Educational Administration at the invitation of Professor Xi, who is Executive Vice President of the Academy. This forum continued and extended the collaboration that Texas A&M's Department of Educational Administration and Human Resource Development and the Chinese National Academy of Educational Administration have had for over a 10-year period. The genesis for this session came out of the collaborative research recently completed by Dr. Xiaobo Yang, Associate Director of International Programs, National Academy of Educational Administration and Dr. Bryan Cole, Professor of Educational Administration, Texas A&M, concerning the examination of critical administrative competencies of presidents and other higher education administrators in China as a result of the significant changes impacting Chinese higher education. Specifically, the issues centered around how administrators both in China and the U.S. can build administrative capacity for increasing research based on a better understanding of the complex environment and internal and external influences impacting higher education today and in the future. Additional issues considered were the nature of collaboration between Chinese and U.S. institutions in order to foster enhanced cooperative research capacity. A number of papers were presented around the following topics:

“A Systems Framework for Building University Research Capacity”
“Leadership Competencies for University Administrators in Building Research Capacity”
“Building Corporate Relations to Enhance University Research Capacity”
“Building Strategic Alliances to Foster University Research Capacity”

The Findings and Recommendations

As a result of the forum and discussions that have subsequently ensued, it was determined that additional study needed to be conducted in terms of applicable training programs to be developed or necessary to provide these higher education administrators with the skills and competencies needed to effectively manage their institutions in a time of very complex change and challenging arenas. A specific outcome of the forum is a proposal that has been developed by the National Academy of Educational Administration and submitted to the Chinese Ministry of Education concerning the training of Chinese higher education administrators in systemic management, change theory and the particular needs of administrators in China's identified institutions to become world class. The principal investigator will be Dr. Xiaobo Yang and will be assisted by Dr. Bryan Cole of Texas A&M University.

Future Collaborations and Justification

In addition to the potential for research collaboration identified above, arrangements are currently being made for an exchange of both practitioners and research staff with Xian Jiaotong University in Xian. Currently the plan calls for four of our Student Affairs staff to spend two to four weeks with their counterparts in Xian Jiaotong University in May-June 2006 with the intent of learning more about the Chinese student affairs system and exchanging views and potential collaborative research topics. In addition, in September 2006, four staff/faculty from Xian Jiaotong University will come to Texas A&M for two to four weeks, and the delegation will be headed either by the Vice President of Student Affairs of Jiaotong or the Dean of Students. This will continue the relationship and build on the research collaboration. Additionally, the Dean of Students of Xian Jiaotong University has been invited to attend the National Association for Student Personnel Administration's annual conference in Washington, DC, in conjunction with our Student Affairs staff that will be there and will be participating in a discussion on capacity building of student affairs in international institutions. Given that Student Affairs is a relatively new area in Chinese higher education, this is an extremely important and valuable area of potential future collaboration and research.

Other Information

As a matter of interest, Dr. Yang, formally an Assistant Vice President at the National Academy of Educational Administration, has recently been appointed as the Director of Student Affairs for the Ministry of Education in China. In this role, he is responsible for coordinating and supporting the development of student affairs in higher education institutions throughout the country. Dr. Yang was head of the 15-member student affairs delegation that came to Texas A&M in the fall of 2003 to participate in a three-week training session for student affairs administrators. This was planned in conjunction with the first China-U.S. Relations Conference, and Dr. Yang and his other colleagues attended the conference as a capstone experience following their training. With Professor Yang's appointment, this should provide significant opportunities for additional collaboration in the future, not only at the institutional level but at the national level as well.

Crop Improvement through Biotechnology (CITB)

Co-Chairs



**John Yu (ARS and TAMU), Yuxian Xu (Peking U) and Tim Hall (TAMU),
Co-organizers of the CITB Research Roundtable**

Participating Collaborators

- 1. Dr. Shu-Nong Bai**, Peking University
DNA Acetylation is involved in regulation of Arabidopsis root development
- 2. Dr. Roy G. Cantrell**, Cotton Incorporated
Cotton Genomics: A Platform for International Collaboration
- 3. Dr. Xiao-Feng Cao**, Institute of Genetics and Developmental Biology, CAS
DNA methylation related epigenetics.
- 4. Dr. Xiaoya Chen**, Shanghai Institute of Plant Physiology and Ecology, CAS
Investigation of gossypol biosynthesis.
- 5. Dr. Zhi-Zhong Gong**, China Agricultural University
Molecular mechanisms of stress-resistance in Arabidopsis plants
- 6. Dr. Jean H. Gould**, Texas A&M, Forest Science
Somaclonal variation in transgenic rice and its impact on agronomic characteristics
- 7. Dr. Wangzhen Guo**, Nanjing Agricultural University
Development of EST-SSRs and their use for genomics and MAS breeding in *Gossypium*
- 8. Dr. Timothy C. Hall**, Texas A&M, Biology
MITEs contribute positively and negatively to gene expression in rice.
- 9. Dr. Russell J. Kohel**, USDA-ARS, Crop Germplasm Research Unit
The international cotton genome initiative and its role in international collaboration
- 10. Dr. Zhong-Ping Lin**, Peking University
Molecular mechanisms of drought resistance in higher plants
- 11. Dr. Jin-Yuan Liu**, Tsinghua University
Proteomic studies using cotton fiber cell extracts
- 12. Dr. Lijun Luo**, Shanghai Agrobiological Gene Center
Progress in improving the drought tolerance of rice
- 13. Dr. Yong-Mei Qin**, Peking University
Molecular cloning and functional characterization of KCS/KCR genes from developing cotton fiber cells

14. Dr. Li-Jia Qu, Peking University

IAA methyl-transferase activity is involved in Arabidopsis leaf shape development.

15. Gui-Xian Xia, Institute of Microbiology, CAS

Cytoskeleton and cotton fiber development

16. Dr. Wei-Cai Yang, Institute of Genetics and Developmental Biology, CAS

DNA mismatch repair system and mitochondrial genome stability in higher plants

17. Dr. Shuxun Yu, Cotton Research Institute, CAAS

Cotton molecular breeding in China

20. Dr. Tianzhen Zhang, Nanjing Agricultural University

Cotton fiber quality improvement through biotechnologies in China

21. Dr. Xianlong Zhang, Huazhong Agricultural University

Developing germplasm by cell fusion in cotton

22. Dr. Shuijin Zhu, Zhejiang University

The full utilization of cotton production via biotechnology

23. Dr. Yuxian Zhu, Peking University

Functional genomic studies on cotton fiber cell elongation

24. Dr. John Z. Yu, USDA-ARS, Southern Plains Agricultural Research Center

Review of 2003 Plant Molecular Biology and Biotechnology (PMBB) Roundtable

Session Summary

The CITB Roundtable began in the afternoon of November 16, 2005, with 10-minute PowerPoint presentations highlighting individual research areas for collaboration (see above). The Roundtable participants spent the same evening on the campus of Peking University to discuss potential areas for future collaboration. In the morning of November 17, 2005, the Roundtable participants formulated topics and objectives of collaborative proposals, prioritized future needs, and summarized action plans for a draft report to the Conference during the luncheon session. All of the participants expressed their appreciation to CITB for the opportunity to participate in the Roundtable associated with the China-U.S. Relations Conference. Rapid advances in plant molecular biology and biotechnology are playing increasing roles in crop improvement. Because food and fiber are mainstays of economic prosperity, it is essential that Chinese and U.S. researchers are at the cutting-edge of these advances. Texas A&M University and Peking University are among the leaders in the areas of genomics and biotechnology of rice and cotton and many research interactions are already established.

Collaborative projects were conducted with complementary research expertise and biological resources. For example, Chinese scientists have been very active in genomic sequencing of rice and are participating in the International Cotton Genome Initiative (ICGI) for which Russell Kohel and John Yu are current chair and co-chair, respectively.

A new research project was initiated last year to characterize cotton germplasm accessions of the Chinese collection and the U.S. collection at Texas A&M University. Mutual interest exists in basic molecular biology. Improvements in plant transformation and stability of gene expression were demonstrated by Texas A&M University scientists Tim Hall and Jean Gould, and Chinese scientists Lijun Luo and Zhong-Ping Lin. Expansion of these activities through roundtable discussions and subsequent funding opportunities would be very beneficial to both Chinese and U.S. scientists and indeed to the general population.

Findings/Recommendations

Among the 35 ICGI nations, China and U.S. are the largest on cotton research and production. Nearly one half of the 495 ICGI researchers are from China and the U.S. that represent a majority of the ICGI Steering Committee including Russell Kohel, John Yu, David Stelly, Tianzhen Zhang, and Xiaoya Chen. There is a clear consensus that the two countries should work together on cotton research so as to provide

basic biotechnological information for cotton improvement. The cotton participants identified many collaborative areas and strongly recommended two for funding. The first is to map and sequence the cotton genome and the second is to reconcile many quantitative trait loci (QTL) for value-added fiber and cottonseed production.

Several Chinese groups are making major advances in identifying valuable abiotic traits such as drought and salt tolerance. In addition to annotation of the genes involved, discovery of additional genes through knockout approaches is of interest. U.S. laboratories likely to participate include the Gould and Hall labs and Dr. Wilson's scientists at TAES, Beaumont, Texas. Owing to an overlap of schedules for the roundtable event and a major meeting at the International Rice Research Institute (IRRI, Philippines), several major rice laboratories were not present and their interest in participating in future collaborations will be explored by e-mail.

Dr. Lijun Luo gave a very clear and excellently illustrated presentation on his group's development of rice engineered to withstand drought and salt-related stresses. This topic was also covered in the presentation by Dr. Zhong-Ping Lin. Dr. Jean Gould cautioned the group with regard to somaclonal variation in transgenic rice. Epigenetic impacts on gene expression in rice, as in other plants, were illustrated in basic research conducted by Drs. Xiao-Feng Cao and Timothy Hall. Several potential areas of collaboration exist. However, a major hurdle is how to obtain financial support for more extended initial visits between the laboratories and seed money for collaborative projects.

Future Collaborations and Justification

1. Integrated mapping and sequencing of the cotton genome: As the world's leading nature fiber crop, cotton is one of the few major crops remaining to be mapped and sequenced. There is a strong interest and consensus from both Chinese and U.S. scientists to collaborate on integrating genetic and physical mapping information and initiating sequencing of the cotton genome. This collaboration has been going on since the last conference and will expand if funding can be obtained. The resources generated from this research will lay a solid foundation for many research applications, including the discovery of all genes for cotton improvement. Prior research collaborations resulted in a draft map of Texas Marker-1, the genetic standard for the world's Upland cotton. Many DNA markers, BAC clones, and EST genes already have been located on each of the 26 cotton chromosomes. This is considered a high-impact project that requires leadership through China-U.S. collaborations.

2. Value-added fiber and cottonseed: Collaborative research has been going on since the 2003 conference to improve cotton fiber and seed by adding productivity- and quality-related values through biotechnology. Many quantitative trait loci (QTL) have been identified for fiber and seed quality and other traits. Collaborative research will help identify common genomic regions for such traits among labs in both countries. This information is needed for cotton breeders to confirm specific DNA markers for selection of value-added traits.

3. Functional analysis of value-added grain quality and stress tolerance: Rice is arguably the most important crop in Asia, including China. Its sequenced genome and ease of *Agrobacterium*-mediated transformation make it attractive for both basic and applied research.

4. Verification and collection of tagged rice lines: A novel post-genomic *in silico* approach for verifying gene location developed for sequenced genomes and experimentally verified for *Arabidopsis* (Yang and Hall, 2005, *Bioinformatics* in press), is now available and its adaptation to rice would be straightforward. Of those present, the Hall, Gould and Luo groups have substantial interest in this project, with the annotated collection of tagged lines ultimately residing at Dr. Luo's institute in Shanghai.

5. Gene discovery, trait improvement: Several Chinese groups are making major advances in identifying valuable abiotic traits such as drought and salt tolerance (Drs. Luo, Lin). In addition to annotation of the genes involved, discovery of additional genes through knockout approaches is of interest. U.S. laboratories likely to participate include the Gould and Hall labs and Dr. Wilson's scientists at TAES, Beaumont, Texas.

6. Epigenetics: The recognition that several epigenetic mechanisms are intrinsic to gene expression was reflected in several exciting presentations. Collaboration between the laboratories of Drs. Cao, Yang and Hall is a natural outcome from the roundtable discussions, especially given the interest and expertise of these groups in transgenic Arabidopsis and rice.

Other Information:

U.S. visa and Intellectual Property (IP) continue to be sensitive issues that will affect future China-U.S. research collaboration.

Deepwater Offshore Technology Research Roundtable

Co-Chairs

- U.S.:** Dr. John M. Niedzwecki, Texas A&M University
Dr. Jun Zhang, Texas A&M University
- Chinese:** Dr. Runpei Li, Shanghai Jiao Tong University
Dr. Shiyi Chen, (Honorary Co-Chair), Peking University

Other Collaborators

Dr. Ove T. Gudmestad, Statoil Norway; Mr. Roy Krzywosinski, Chevron Energy Technology Company; Mr. Mark Verm, Kerr McGee China; Dr. Wanhong Li, National Natural Science Foundation of China; Dr. Yingxiang Wu, Chinese Academy of Sciences; Mr. Shi Lin & Mr. Jerry Sun, China National Petroleum Offshore Engineering Co., Lt; Mr. Shouwei Zhou & Mr. Hengyi Zeng, China National Offshore Oil Corporation; Mr. Jiang Xizhao, Offshore Oil Engineering Co., Ltd.(CNOOC Engineering); Dr. Yucheng Li, Dalian University of Technology; Dr. Guoyou Yu, Tianjin University; Dr. Guihua Xia & Dr. Xiongliang Yao, Harbin University; Dr. Hua Jun Li, Ocean University of China; Dr. Shan Shi, Houston Offshore Engineering; Ms. Chen Xie, Texas A&M University

Session Summary

The search for additional petroleum and gas reserves in the US and now China has lead to deepwater exploration and development activities that require extending existing technologies to their limit and the development of new concepts and technologies to meet the challenges. The development of deepwater facilities and transport of the petroleum products to onshore or nearshore facilities, and then on to the consumer requires application of state-of-the-art technologies and the careful management of risk and safety considerations.

The intent of this roundtable session was to identify specific technical opportunities for collaboration and the exchange of views in order to discover a way forward. This included discussions concerning mutually beneficial exchanges of engineers and scientists, student internship, collaborative short courses on critical technologies, the development of consortia and funding through joint industry and government supported projects. The idea of establishing an office for Texas A&M University in China that would be used to facilitate technical exchanges was also discussed.

The invited presentations included: three companies already working in China (Statoil, ChevronTexaco and Kerr McGee), two of the three major Chinese oil companies, the Chinese Academy of Sciences, three Chinese universities and TAMU's Offshore Technology Research Center. In addition, two other Chinese universities took part in the discussion as well as a representative from the National Natural Science Foundation of China. Thus, the focus of the discussions was as intended, deepwater offshore China.

Findings/Recommendations

- “Do we need deepwater platforms or should we focus on sub-sea completions and tie-backs?”
“Are there any unique deepwater or nearshore design challenges in offshore China?”
“How do we identify and fund mutually beneficial research?”
“How do we accelerate offshore technology beyond a few of the leading Chinese universities?”

The two Chinese universities leading in research and technology on offshore studies are Shanghai Jiao Tong University (SJTU) for deepwater ocean and naval architecture, and Dalian University of Technology for coastal engineering. They both have State Key Laboratories but SJTU is constructing a new campus that will house the largest model basin in the world (tentatively opening 2007). The other universities have a variety of expertise, with Harbin University being the most aggressive in hiring skilled

Chinese engineers from Houston to be part of their faculty. These specialized faculty provide distance learning courses and regularly visit the Harbin campus.

The conclusion regarding deepwater platforms and sub-sea completions was that some optimal combination, depending on the field, needs to be determined and this could lead to some research. Offshore China has high current regions and regions susceptible to typhoons and ice, so ships with quick disconnect systems and sub-sea systems are of great interest, as well as variations of other world-wide platform designs.

Future Collaborations and Justification

Both NSF and the National Natural Science Foundation of China were approached on the issue of funding a follow-on workshop to be held at Shanghai Jiao Tong University. Dr. Jun Zhang and I have begun to work on the proposal details with Professor Runpei Li. The workshop focus would be on novel offshore structures and systems for offshore China.

Other Information

As a result of the meeting, my doctoral student Ms. Xie Chen has compiled an initial list of existing laboratory capabilities based on meeting input, and the appropriate websites to help me evaluate where I could encourage our faculty to pursue collaborations. Dr. Guan Qin was very helpful in developing contacts and he will be an integral part of our future efforts.

East Asia and the United States in the Age of Globalization

Co-Chairs

- U.S.:** Richard Chilcoat, Dean, George Bush School of Government and Public Service, Texas A&M University
- Chinese:** Jisi Wang, Dean of the School of International Relations, Peking University

Other Collaborators

From Texas A&M University, George Bush School: Professors Joe Cerami, Lorraine Eden, Jeff Engel, Xincheng Liu, Chuck Hermann, Mike Desch; From other U.S. universities: Professors Helen Milner (Princeton), William Overholt (RAND), Susan Shirk (UC, San Diego), George Yu (University of Illinois) From China: Professors Jin Chanrong (Renmin University), Li Yonghui (Beijing Foreign Studies U), Qin Yanqing (Foreign Affairs University), Yan Xuetong (Tsinghua University), Yuan Peng (China Institute for International Relations), Ren Xiao (Shanghai Institute of International Studies), Su Changhe (Fudan University), Jia Qingguo (Peking University), Wang Zhengyi (Peking University), Yuan Ming (Peking University), Wang Yong (Peking University). (In addition a number of individuals from other countries in Asia participated as part of the Beijing Forum. See below.)

Session Summary

This roundtable differed from most of the others in that one of the two organizing units, the School of International Relations at Peking University, was also involved in another conference that substantially overlapped with the China-U.S. Relations conference. To enable maximum participation, it was agreed to merge this roundtable into the other event, the Beijing Forum. Several implications resulted from this merger. First, the scope of the dialogue expanded. Second, the number of participants increased. As a result more sessions were held to accommodate the increased number of those involved and less time was devoted to formal follow-on exchanges of each presentation. Sessions were held on (a) China-U.S. Relations in the Asian Context, (b) Prospects for Asia-Pacific Economic Cooperation, (c) America's Role in the Security of East Asia, and (d) Global Impact. Although a number of lively exchanges occurred, the number and range of topics examined prohibited forming specific findings or recommendations.

Future Collaboration and Justification

Unquestionably the most important outcome of the roundtable in the adopted format was the range of contacts made among Chinese scholars (and others in Asia) with similar or parallel professional and scholarly interests. These occurred at two levels—informal individual exchanges and more formal agreements. Two formal agreements represent major advances for further collaboration. Dean Chilcoat signed a Memorandum of Understanding with his counterpart at Peking University that establishes a commitment by both sides to explore possible areas of exchange and collaboration during the coming year. A similar agreement was signed with the Shanghai Institute for International Affairs (SIIS) during the conference in Beijing calling for exchanges in specific areas. As a follow-up on the SIIS agreement, a graduate student at that institute is in residence at the Bush School for spring of 2006. In addition, a group of experts from SIIS will participate at the Bush School in a seminar in to be held in College Station in April of 2006 on China-U.S. perspectives on global energy. Arrangements are now underway for the first Bush School student to spend time in the summer of 2006 at SIIS.

Other Information

Two Bush School students attended the roundtable in Beijing as observers and note takers. They have prepared a separate report on their experience.

Emerging Infectious Diseases in China

Co-Chairs

U.S.: Deborah Seligsohn; U.S. Embassy Beijing
Chinese: Yiming Shao; Chinese Centers for Disease Control and Prevention (China CDC)

Other Collaborators

Craig Shapiro; U.S. Embassy Beijing
Ray Chen; U.S. National Institutes of Health
Jianhui Zhang, Yan Cui, Zhuohua Fu; China CDC

Session Summary

Emerging infectious diseases in China and elsewhere in Asia have the potential to impact significantly global trade, diplomacy, and research. This was all too clearly demonstrated during the 2002-2003 SARS outbreak. Avian influenza is this year's greatest global emerging disease, with human cases reported in Vietnam, Thailand, Indonesia, and Cambodia. HIV is a global disease that has caused significant political and social unrest and reversed decades of public health and life expectancy gains in Africa. China has taken major steps in recent years to face its own growing epidemic. This roundtable addressed emerging infectious diseases in China from three perspectives:

- 1) Public health communications: communicating risk and promoting health. The role of the media and official spokespersons in communicating public health threats is critically important to informing the public, in an open manner without causing panic.
- 2) Clinical trials: good clinical practices for research. The ethical conduct of clinical research in international studies is important for human rights, safety, and credibility of study results.
- 3) Preparedness for and response to HIV/AIDS and other emerging infectious diseases: lessons learned from international experiences. Emerging infections are not new and lessons learned from previous outbreaks can be applied to future ones.

The experiences discussed during these three subsessions mutually benefited both China and the United States in responding to future emerging infectious diseases.

Findings/Recommendations

Discussions from the three roundtable subsessions centered on the similarities and differences between the two countries and how each could learn from the other. Under public health communications, speakers discussed the importance of having a knowledgeable and reliable spokesperson during times of emergent public health threats. This spokesperson can then convey accurate information to the public in a timely manner to help avoid panic. Experiences drawn upon included the U.S. anthrax bioterror event in 2001 and the current avian influenza outbreak in China. For clinical trials, speakers emphasized the importance of adhering to international Good Clinical Practices standards when conducting studies. China adheres to these standards and has been developing its own ethical infrastructure, from both scientific and regulatory perspectives. Finally, the discussion on responding to HIV/AIDS and other emerging infectious diseases centered on the lessons learned by each country from the different epidemics experienced, including HIV/AIDS, SARS, and avian influenza. Because new outbreaks can only rarely be anticipated, the best preparation is to improve the national surveillance infrastructure and response systems.

Future Collaborations and Justification

Future collaborations between U.S. and China on emerging infectious diseases are planned, particularly in the area of avian influenza surveillance and research. An agreement between the China MOH and the U.S. DHHS has been signed with specific meetings and research agendas already being planned. Extensive collaborations in the field of HIV/AIDS are already ongoing and will continue. Additional meetings to address topics of ethics related to clinical research and other activities are also being planned.

Environmental Concerns and Birth Defects Research in China

Co-Chairs

- U.S.:** Prof. Richard H. Finnell
Institute of Biosciences and Technology
Texas A&M University Health Science Center
- Chinese:** Prof. Li Zhu M.D., M.P.H., Director
Peking University Institute of Reproductive and Child Health
Peking University Health Science Center
- Prof. Xiaoying Zheng, MD, Ph.D.
Director and Professor
Institute of Population Research
WHO Collaborating Center on Reproductive Health and Population Science
Peking University

Other Collaborators

Dr. Thomas H. Rosenquist, University of Nebraska Medical Center, Dr. Anna Maria Siega-Riz, University of North Carolina School of Public Health, Dr. Jacqueline Gindler, Centers for Disease Control and Prevention- Peking University Institute of Reproductive and Child Health, Dr. Nancy W. Dickey, Texas A&M University Health Science Center, Dr. K.C. Donnelly, School of Rural Public Health, Texas A&M University Health Science Center, Dr. Philip Mirkes, College of Veterinary Medicine, Texas A&M University, Dr. Jiapeng Chen, Institute of Population Research, Peking University, Prof. Xinming Song, Institute of Population Research, Peking University, Dr. Laura Mitchell, Institute of Biosciences and Technology, Texas A&M University Health Science Center, Dr. Ting Zhang, Capital Institute of Pediatrics, Dr. Ren Ai-guo, Peking University Institute of Reproductive and Child Health, Dr. Gong Chen Institute of Population Research, Peking University and Dr. Jianming Wu, Capital Institute of Pediatrics.

Session Summary

The session was devoted to the study of environmental causes of complex birth defects. The topics covered included epidemiological and genetic approaches including gene-environment interactions to study the factors that contribute to the excessively high rates of congenital anomalies in certain regions of China.

China has long recognized the importance of protecting its future generations. This includes minimizing the risk of environmental factors that might be contributing to birth defects. This is increasingly difficult in a highly industrialized society. Understanding the magnitude of the problem is a critical first step in alleviating the risks involved to present and future generations. Several different research groups in China are presently working diligently to document this very problem.

Findings/Recommendations

While the work conducted by Prof. Li Zhu and his staff at the Institute of Reproductive and Child Health in collaboration with the CDC in the U.S. produced the strongest evidence to date that women who take the vitamin folic acid in the periconceptional period can reduce the incidence of neural tube defects such as spina bifida in their intervention trial, more recent work conducted in Shanxi Province by the Capital Institute of Pediatrics investigators now show that the prevalence rates of NTDs are in excess of 10% of births, making these the highest in the world. There are clearly environmental and nutritional factors that may be contributing to these excessively high rates. The diets in this province are lacking in sufficient folic acid and vitamin B12. This may contribute to elevations of homocysteine, which is a known risk factor for cardiovascular disease and is also thought to contribute developmentally to birth defect risks.

There is thought to be exposure to high levels of PAHs, arsenic and other heavy metals which may also be teratogenic. These represent very complex interactions whose etiologic basis must be dissected out in order to understand their contributory role to the problem of birth defects in Shanxi and other regions of China.

Future Collaborations and Justification

It is essential to develop a strong and sustained research infrastructure. At the present time, it is very difficult to remove biological samples from China. This has not always been true, but at the present time, it is increasingly difficult to obtain the proper export permits. While ideally all the analyses could be run by our Chinese collaborators, this is just not practical. Good science would predicate that studies be validated in separate laboratories. Unfortunately, even that is not possible. So we should endeavor to establish and sustain strong research facilities in collaborative laboratories in China where the analytical work could be conducted.

There is a strong need to foster collaboration between research groups not competition. Studies of birth defects require large populations followed over many years or decades. This demands cooperation. We hope that the primary affiliates-Peking University, Peking University Health Science Center, Texas A&M University and Texas A&M University Health Science Center faculty and scientists can find the means to work together and identify target areas to pursue. These might include:

- Genotoxic studies of bulky adducts
- Genomewide neural tube defect association studies
- Role of folate receptor autoantibodies on NTD risks
- Maternal nutritional studies
- Apoptotic genes underlying susceptibility to NTDs

Other Information

The organization of these meetings was flawed and did not permit an exchange of this important information to Chinese students and junior scientists. We hope that the meetings when they take place in future years will be more open and accessible. This will also serve to not only educate, but to foster more collaborations.

Gender Policy and HIV in China

Co-Chairs

U.S.: Dudley L. Poston (Texas A&M University)
Chinese: Xiaoying Zheng (Peking University), Baochang Gu (Renmin University)

Other Collaborators

The other collaborators/presenters are mentioned by name and affiliation in the summary below.

Session Summary

The roundtable session on Gender Policy and HIV in China, a part of the Second China-U.S. Relations Conference on Trade, Diplomacy, and Research, was held in the Yingjie Exchange Center of Peking University on November 16-17, 2005. There were 20 experts in attendance, whose research fields included demography, sociology, public health, and law. The experts hailed from Texas A&M University, Temple University, Harvard University, McGill University, Tsinghua University, Peking University, Renmin University, UNAIDS, UNFPA, and the Population and Family Planning Commission of China. Another 20-30 persons attended one or more of the sessions as observers and participants.

Professors **Xiaoying Zheng** (Peking University), **Dudley L. Poston** (Texas A&M University) and **Baochang Gu** (Renmin University) chaired the roundtable sessions and discussions. The main topics discussed included the current situation of HIV/AIDs in China, China's population policies, the issues of China's unbalanced sex ratio at birth, the role of women in the HIV/AIDS epidemic, the role of law and law-enforcement practices in China with regard to HIV/AIDS, and some of the individual and social determinants of HIV/STD risk among female migrants.

The first speaker was Prof. **Scott Burris**, a lawyer from Temple University's Beasley School of Law. He presented a theoretical framework dealing with public health risk environments and used this framework to analyze the current situation of commercial sex in China. He focused in particular on the role of the law and law-enforcement practices. His co-author, Prof. **Guomei Xia**, a sociologist from the Institute of Sociology at the Shanghai Academy of Social Science, provided more detailed information about her current research on commercial sex in Shanghai. Dr. **Qiang Ren** (Peking University) then spoke about the relationship between the current and future size of China's population and the prevalence of HIV/AIDs in China; the absolute levels if HIV/AIDS are expected to increase substantially in China. Prof. **Dudley L. Poston** (Texas A&M University) spoke about the unbalanced sex ratio at birth in China. Currently in China, about 119 boys are born each year per 100 girls born (the ratio in most countries of the world, including the U.S., is 105). He stated that this surplus of boys to girls, occurring since the 1980s, has produced around 23 million extra boys in China who will not be able to find Chinese girls to marry. He discussed the challenges China will face because of these millions of bachelors and some of the strategies that China may choose. Prof. **Xiushi Yang** (Old Dominion University) and Prof. **Guomei Xia's** presentation argued that given the gender inequalities in China, female temporary migrants may be particularly disadvantaged in cities in many areas, particularly with regard to the risk of disease from unprotected casual and commercial sex; there presentation focused especially on the risk of HIV and other sexually transmitted infections (STIs). Dr. **Tianfu Wang** (Department of Sociology, Tsinghua University) reported the results of a study co-authored with Dr. **Joseph Tucker**, a medical doctor from the University of California at San Francisco, on migration from rural to urban areas and its impact on the spread of HIV in Central China. They reviewed the main reasons why a better understanding of male heterosexual risk is useful in the context of China; they assessed and evaluated current data describing male heterosexual risk in China; and they considered useful methodologies for surveying male sexual risk. Dr. **Sandra Teresa Hyde**, an anthropologist and sociologist from McGill University, spoke about changing gender relations and HIV transmission in Yunnan province. She focused in particular on tourism

and sexual activity in hair salons in Xishuangbanna (a city in Yunnan Province), and considered the various local prevention policies that emphasized gender differences.

Findings/Recommendations

The three Chairs (Drs. **Zheng, Poston and Gu**) then gave brief summaries of the sessions and chaired a general discussion dealing with HIV issues in China. The discussions resulted in an assortment of policy recommendation that will be presented to the Chinese government.

Among the general policy recommendations that emerged during roundtable discussion are the following:

1. Government policies regarding prostitution in China need review. Prostitution should not be treated as a crime.
2. China needs to devote more resources to the interdisciplinary study of HIV/AIDS prevalence, with a focus on gender issues.
3. China needs to begin now to consider some of the implications of having 23 million bachelors in the big cities, all unable to find wives. All evidence suggests this will lead to unprecedented levels of HIV/AIDS, surpassing those in sub-Saharan Africa. The government needs to plan better to be able to accommodate these surplus boys.
4. China needs to work toward removing the stigma of HIV/AIDS. Discrimination is a major obstacle in HIV/AIDS prevention. Public discussions need to be carried out in the daily newspapers and the media. What are the rights of persons who are infected with HIV/AIDS? How should they be treated? How may their rights be protected?
5. The NGOs in China need to play a larger role in HIV/AIDS prevention.
6. Discussions of AIDS prevalence and prevention strategies need to be reported openly and honestly in the media.
7. The household registration system of China (the *hukou* system) needs to be reformed. It is not only an economic and urban planning problem but also a public health issue. The floating population (the many millions of temporary migrants) ought to be able to live and reside with their families. A reform of the *hukou* system would by itself reduce considerably the prevalence of HIV/AIDS in China's cities, given that presently there are over 100 million floating migrants in the big cities on China's East Coast, and they are a major part of the high levels of HIV transmission.
8. Patients who are infected with HIV/AIDS should be involved in the process of HIV/AIDS prevention.

Future Collaborations and Justification:

Drs. **Zheng, Poston** and **Gu** also discussed plans and a timetable for writing a book on the major features of the roundtable. We have developed a contract with Peking University Press. A book will be published in late 2006. Chapters are now being written. The book will be published in both Chinese and English.

Higher Education Intellectual Property Rights and Technology Transfer

Co-Chairs

- U.S.:** Richard Nader, Texas A&M Engineering, Co-Chairs Guy Diedrich, Texas A&M Technology Commercialization Center, and Roger Elliott
- Chinese:** Zheng, Shengli, Peking University, Co-Chair Zheng, Yongping Tsinghua University

Other Collaborators

Representatives from the U.S.: Texas A&M University System, Texas A&M VPR, Technology Commercialization Center, University of California, San Diego Office of IP Services and Technology Development, University of Hawaii System Technology Transfer Office; MIT, Office of IP Counsel; U.S. Department of State, Bureau of Education and Cultural Affairs, PlantCorp, Inc. venture business.

Representatives from China: State Intellectual Property Office, Ministry of Science and Technology, Ministry of Education, Peking University, Tsinghua University, Yunnan University, Xian Jiaotong University.

Session Summary

The session was preceded by two weeks of university and government visits sponsored by the U.S. Department of State, Bureau of Education and Cultural Affairs through a grant for “Exchange on IP Rights and University Technology Transfer for Higher Education Policymakers.” The project was designed to promote discussions on IP rights through university-spawned technology and commercialization. The Texas A&M University sponsored roundtable served as a capstone meeting of the principle university and government representatives to evaluate the feasibility of a new consortium model of co-development of pre-competitive university technologies. The group discussed the idea in light of policy-legal, professional-practical and scientific parameters.

Findings/Recommendations

The model is feasible and a precedent exists at Tsinghua. Universities on both sides agreed to continue to develop the model.

Future Collaborations and Justification

A small group of venture capitalists and university representatives plan to visit China after investigating technology portfolios for complementarities.

Other Information

Possibility of additional grant funding from ECA, Department of State (announcement pending).

Information Technology and Applications

Co-Chairs

- U.S.:** Dr. Wei Zhao, Director of Computer and Network Systems Division, National Science Foundation, USA
- Chinese:** Dr. Zhiyong Liu, Deputy Director of Computer and Information Sciences Directorate, National Science Foundation of China

Other Collaborators

General Sessions

Dr. Guojie Li, Chinese Academy of Sciences; Dr. Yinghua Min, Chinese Academy of Sciences; Dr. Craig C. Douglas, University of Kentucky; and, Yale University; Dr. Weiping Shi, Texas A&M University; Dr. Dian Zhou, Fudan University; Dr. Xiaoming Li, Peking University; Dr. Bjarne Stroustrup, Texas A&M University; Dr. Dingzhu Du, University of Texas at Dallas; Dr. Hui Zhang, Carnegie Mellon University; Dr. Kai Li, Professor, Princeton University; Dr. Larry Landweber, Professor University of Wisconsin; Dr. Ravishankar Iyer, University of Illinois at Urbana-Champaign; Dr. Sangtae Kim, Purdue University; Dr. Christophe Diot, Thomson Paris Research Laboratory; Dr. Hai Jin, Central China University of Science and Technology; Dr. Ke Liu, National Science Foundation of China; Ms. Patti E. Urbina, Texas A&M University

Special Session on New Media and Cultural Power

Chair: Dr. Ian Weber, Texas A&M University; Dr. Ke Guo, Shanghai International Studies University; Dr. Randolph Kluver, Nanyang Technological University, Singapore; Dr. Duan Peng, China Communications University

Special Session on IT-based Science Education

Chair: Dr. X. Ben Wu, Texas A&M University; Dr. Ke Guo, Shanghai International Studies University; Xiaolin Zhang, China Association for Science and Technology; Stephanie Knight, Texas A&M University; Jianhui Li, CAS, China Network and Information Center; Wen Li, CAS, China Network and Information Center; Yu Chen, CAS, China Network and Information Center

Session Summary

This Research Roundtable explored critical subjects related to the challenges and opportunities of Information Technology and Applications and provided scientists from both countries the opportunity to strengthen the exchange in this critical field and promoted substantial cooperation. Computer and computational science and technology provide the practical tools indispensable to further scientific advances in an expanding range of disciplines. On occasion, such applications are so far reaching that their impacts go beyond practical economic impacts and have political, social and cultural impacts as well. The developments of computer and computational sciences and technologies have resulted in significant changes in the ways that scientific research is conducted. They have facilitated new kinds of scientific collaboration allowing scientists located in areas remote from leading research centers to have immediate access to research results, and in many cases to participate directly in the research itself. Computer and computational sciences and technologies are also continuing to have broad economic, political, social and cultural impacts which are now being subject to critical examination. Although, arguably, most of these broader impacts have been positive, negative aspects (both actual and perceived) have also been identified. Understanding and dealing with such negative aspects, preferably at an international level, will be essential if computer and computational sciences and technology are to have their potential capabilities fully realized. These capabilities will serve as tools for conducting scientific research, as facilitators of scientific cooperation, and, most importantly, as a means for effecting positive economic and social change by enhancing communications within and among societies throughout the world. The United States has been a leader in the field of the computer and computational sciences and technology. China, on the other hand, has recently made rapid progress in many critical aspects of this

field and seeks to continue this progression. Hence, productive collaborations will benefit both countries and make a positive impact on the community.

This session on Cyber Infrastructures and Computer and Network Systems was held with parallel sessions simultaneously investigating the role of IT, New Media and Cultural Power; and, IT-based Science Education. The combined sessions hosted two members of the US Academy of Engineering; the Deputy Director of Computer and Information Technology, NSF/China; the Editor in Chief of IEEE Transactions; and two NSF/US Division Directors. IT and applications discussions included; grid applications; algorithms and numerical and symbolic methods; computer network and security; embedded systems; dynamic data-driven simulation; modeling techniques/tools for geo-sciences and petroleum engineering; workforce training; and ethics issues.

IT, New Media and Cultural Power focused on how new media creates a framework for discourse around one of the thorniest of issues in international politics, that of China-US relations. Secondly, the roundtable investigated how the logic (or organization of information) of these new media establishes a political culture in which issues of foreign policy between the nations are worked out. Thirdly, the roundtable explored how new media technologies in current and future digital forms, contribute to public deliberation of international relations. For example, the growing convergence between the Internet and digital television provide a potentially dynamic content and technology rich research environment in which to investigate these issues. New media technologies serve as a platform for multiple research themes developed through the roundtable. A panel of international scholars comprised of US and China experts worked together on blended panels for the discussions which included media ecologists, political scientists, humanities scholars, technology experts, and media analysts and professionals active in new media developments, international communication and international relations. Questions framing the discussion were:

1. How and in what ways do new media differentially portray US-Chinese foreign policy issues?
2. How does the logic of new media encourage or inhibit serious discussion of foreign affairs? What assumptions are made about format, timeliness and perspective?
3. How can new media create a political culture in which issues of China-US foreign policy are discussed within the public sphere?
4. How can new media contribute to political discourse and public deliberation of foreign affairs in ways that improve China-US relations?

IT-based Science Education shared information on existing collaborations with the Chinese Academy of Science, various Chinese museums and Texas A&M University. A primary benefit of this collaboration has been the heightened awareness of the benefit of IT based work in science education. Lessons learned in the project are anticipated to serve as a model to move technology in science education from a role of demonstration and public awareness to the introduction of more inquiry-based and experiential learning-based education to the classroom in high schools and other levels of formal education.

Findings/Recommendations

The roundtable participants, collectively and individually, agreed the event provided great benefit in allowing an open exchange, promoting relationships and dialogue and offering a venue that will build and strengthen future relations among the participating scholars. Organizers found the forum to be useful for academics to better understand and consider the role and comprehensiveness of IT in a variety of applications. Recommendations for future roundtables centered on the need to attract greater numbers of Chinese scholars to the discussion and thereby expand the Chinese perspective's representation in the dialogue. Particularly relating to IT applications and IT research, the need to more evenly match the participants' interest and expertise would enhance the discussion.

Future Collaborations and Justification

Both governments have given full attention to mobilizing the Internet and digital broadcasting for international distribution of information. However, little is known of the impact of the logic of these new media on international relations. In the critical realm of US relations, scholars who are concerned about political discourse must look beyond the premature promises found within utopian dreams that new media will bring a “computer-mediated peace”. As such, there is need to gain more accurate understandings of how new media technologies mediate political discourse and international relations, so that future hopes of improved China-US relations are not based on technological fantasy. The international significance of these research findings, coupled with the common interest in improving international relations for mutual economic gain, provides fertile ground for research into the role of new media technologies in enhancing China-US relations.

Participants of the IT, New Media and Cultural Power are pursuing publication of their roundtable presentations. Increased exposure from the publication is hoped to aid recruiting to attract more Chinese and U.S. scholars to future discussions.

Learning and Growth of New Technology Ventures in China's High Technology Industries

Co-Chairs

U.S.: Haiyang Li, Rice University
Michael Hitt, Texas A&M University

Chinese: Ming Lei, Peking University

Other Collaborators

Merry Cui, Tianjin Economic-Technological Development Area
Loraine Eden, Texas A&M University
Xudong Gao, Tsinghua University
Kouqing Li, Shanghai National Accounting Institute
Yuan Li, Xi'an Jiaotong University
Marjorie Lyles, Indiana University
Sam Park, Samsung Economic Research Institute
Claudia B. Schoonhoven, University of California Irvine
Laszlo Tihanyi, Texas A&M University
Weiyong Zhang, Peking University
Yan Zhang, Rice University
Changhui Zhou, Peking University
Li-An Zhou, Peking University

Session Summary

This roundtable explored the relationship between organizational learning and firm growth in China's high technology industries. Given the rapid growth of high technology ventures in China and their increasing importance in the global marketplace, we explored how Chinese technology firms use different types of learning approaches (exploratory and exploitative) and also examined the interactive learning between domestic ventures and foreign entrants in China's emerging market. This roundtable represented a significant extension of the work in the roundtable discussion in the first China-U.S. Relations Conference hosted by Texas A&M University at College Station in the 2003. In that conference, we focused on *growth strategies* of new technology ventures in China.

In our session, we invited two keynote speakers: Weiyong Zhang, Professor and Executive Dean, Guanghua School of Management at Peking University and Michael Hitt, Distinguished Professor of Management, Joe B. Foster Chair in business leadership and C.W. and Dorothy Conn Chair in new ventures from Texas A&M University. In addition to the two keynote speeches, we had seven paper presentations. Also, we had industry participants from Tianjin Economic-Technological Development Area.

Issues We Addressed

In this session, we explored various issues regarding learning and development of new technology ventures in China's high technology industries. In particular, scholars focused on the following interesting and critical issues:

- Institutional stability and growth of Chinese new technology ventures
- Pros and cons of Chinese technology firms' globalization
- The effect of social trust and human capital on firm growth in high technology industries
- Critical factors affecting the survival of new technology ventures in China
- Strategic alliances and learning of emerging market firms (State-owned firms and private ventures)

- Innovation and technology capability development in Chinese technology ventures
- Social embeddedness and growth of national technology development zones/science parks in China

Future Collaborations and Justification:

This roundtable discussion opens more opportunities for research collaborations between/across U.S. scholars and Chinese scholars. For example,

- Haiyang Li has two ongoing research projects with colleagues from Peking University and Tsinghua University.
- Michael Hitt and Haiyang Li are working on a project with colleagues from Xi'an Jiaotong University.
- Michael Hitt has a joint research project with colleagues from Peking University.
- Yan Zhang is working on a project with colleagues from Xi'an Jiaotong University.

In addition, based the roundtable, Haiyang Li is proposing a caucus on “Research issues on new technology ventures in China” at the forthcoming International Association of Chinese Management Research (IACMR) Conference in Nanjing in 2006.

We are also exploring the opportunity of industry visits to several science parks in China such as Beijing Zhongguancun Science Park and Tianjin Economic and Technological Area to develop further research collaborations.

Quality of Life Issues in Contemporary Chinese Cities: the Impacts of Rapid Growth and Change

Co-Chairs

U.S.: Dr. Robin Abrams

Chinese: Dr. Gong Chen

Other Collaborators

From Texas A&M University: Dr. Chanam Lee; Dr. Chang-Shan Huang; Ph.D. student Xuemei Zhu; Ph.D. Student Bin Kang; Ph.D. Student Zhipeng Lu.

From The University of Texas at Austin: Dr. Simon Atkinson.

From Peking University: Prof. Xiaochun Qiao; Prof. Cordia Chu; Prof. Xiaoying Zheng; Prof. Jie Hu; Prof. Qizhi Mao; Prof. Xiaoying Zheng

Session Summary

The session included a diverse collection of topics relating to sustainable urban development and the impacts of rapid growth, reflecting the diversity of the presenters, who ranged from architects, landscape architects and urban planners to demographers, environmental scientists and sociologists. Topics discussed included the preservation of vernacular housing in Beijing; creating walkable neighborhoods in new housing developments; the impacts of neighborhood design on obesity in children; new trends in housing for elderly; the impacts of environmental pollution on population health; loss of sense of place in replacement housing; and the urban redevelopment potential of the upcoming Beijing Olympics. Discussion upon conclusion of the presentations was that there was some element in each presentation linking to each of the others.

Findings/Recommendations

The lively discussion that followed each of the presentations did not allow enough time to reach collective findings or recommendations. What did occur was the linking up of scholars who were working in very similar areas. This was particularly the case with Dr. Chu's presentation on building healthy cities, in which she cited case studies in Korea, and Dr. Lee, who is from Korea, whose research focuses on building healthy cities, and who had been seeking contacts and case studies in Korea. The American faculty and students, each pursuing research on aspects of China's growth-related problems, were quite pleased to find Chinese faculty working equally hard on aspects of the same problems, such as resolving housing and health issues for the floating population. One of the most interesting discussions was concerned with the search for a definition of "Chinese-ness", among those wishing to preserve a sense of place in China's cities, neighborhoods, and housing communities.

Future Collaborations and Justification

The topic of quality of life in the face of rapid change in China is unfolding on a daily basis. All faculty participants agreed that research in this area is new, and collaborations will prove extremely fruitful, for the purpose of peer review at the very least. The many coincidental connections among participants prove the world is actually a small place. Prof. Jie Hu, who teaches Landscape Architecture at Tsinghua University and is the Master Planner for the Beijing 2008 Olympics, is working to form a new department with the American professor who supervised Dr. Huang's dissertation at University of Pennsylvania. Jie Hu and Dr. Abrams linked up after the sessions, because the use of Olympic master plans as a catalyst for urban redevelopment is a research focus of Dr. Abrams. She was able to tour the Beijing Olympic site with Jie Hu, and return to his office to view the plans, and participate in a mini-workshop on one of the facilities. She has since proposed another roundtable discussion on Olympic master planning at the 2006 National Meeting of the American Society of Landscape Architects in which Jie Hu will participate, along with the President of Sasaki Associates, one of the most prestigious international landscape architecture

firms, which led the first master plan team for Beijing 2008. Sasaki heard from Jie Hu about the roundtable and asked to be included. I believe this will be one of the best-attended sessions at ASLA 2006, and will be published in the proceedings.

The roundtable discussions and paper presentations in this session are truly just the tip of the iceberg. Urban conditions are changing so rapidly in China that researchers struggle to keep up and the data is quickly out of date. Essentially, we found that we were interested in the same things – and the American faculty had access to research funding and resources, while the Chinese faculty could witness change first hand and share their experiences.

We would very much welcome the opportunity to continue this discussion in 2007.

The Role of Non-Conventional Hydrocarbons in Meeting the Growing Energy Demand

Co-Chairs

- U.S.:** Guan Qin, Texas A&M University,
Jie Huang, Exxon Mobil Upstream Research Company
- Chinese:** Cunzhang Yan, PetroChina Limited
Dongxiao Zhang, Peking University

Session Summary

The potential for non-conventional hydrocarbon (NCH) resources worldwide, such as heavy oil, tight gas, and coal-bed methane, is huge yet not very well understood. The current share of non-conventional hydrocarbon in global fossil fuel production is relatively small, but it is growing fast. An increase in the utilization of non-conventional hydrocarbon resources in an economic fashion will certainly help balance the supply and demand in today's world energy market. The exploration and development of global non-conventional hydrocarbon resources will create vast opportunities for collaborations between U.S. and Chinese companies.

This session focused on building a vision for the exploration and development of NCH resources with respect to commercial viabilities, technological readiness and environmental impacts. Ten presentations were given by industrial and academic experts from PetroChina, ExxonMobil, Texas A&M University, University of Oklahoma, China National Offshore Oil Corporation (CNOOC), Peking University, Kerr McGee China Limited and China Petroleum University. The presentations and following discussions focused on:

- the distribution and geological settings of NCH reserve in both China and the United States;
- the current status of NCH production in both China and the United States;
- the latest technologies developed and the remaining challenges, such as thermal processes in developing heavy oil and oil sands, various fracturing technologies in developing tight-gas, surface waste treatment in producing coalbed methane resource and environment impact, the production of NCHs in deep-water environment and the application of horizontal well technologies;
- the challenges to implement the latest technologies and encourage future advances that involve government regulations and incentives;
- the rationale for developing NCHs and their potential contribution to global energy production in meeting the energy challenges.

As the wrap-up, the participants concluded that the exploration and development of global non-conventional hydrocarbon resources are vitally important for balancing global energy supply and demand. The global NCHs production is rapidly increasing, which provides tremendous research opportunities to develop and implement technologies to make the production sustainable. Government policies and incentives will significantly affect technology development and implementation, which will consequently affect the growing pace of the NCHs production. The research collaborations between industry and academia, as well as between U.S. and Chinese companies, will certainly be a robust driving force for the global development of NCHs.

Findings/Recommendations

Both the United States and China have huge NCH reserve. Based on the session discussion as well as the U.S. Department of Energy's Country Analysis Briefs for China and the United States, the major energy challenges for both countries are to reduce the reliance on foreign energy sources and minimize the environmental impacts from energy extraction and generation. The exploration and development of NCHs in an economically viable and environmentally sound manner will greatly help in meeting those energy

challenges for both the United States and China.

There is clearly an elevated industry interest in advanced NCH production technologies in both the United States and China. This is highlighted by the fact that a significant percentage of remaining reserves of Chinese national oil companies (NOC) are NCH in nature. For example, heavy oil accounts for more than 50% of the CNOOC remaining oil reserves and tight-gas resource in the Ordos Basin contributes a major share of PetroChina's gas reserves. Moreover, several overseas joint ventures of Chinese NOCs involve oil sands in Western Canada and extra-heavy oil production in Orinoco heavy-oil belt, Venezuela.

The technical challenges in producing NCHs were identified as the follows:

- geological understanding of NCHs reserves such as the distribution and geological setting;
- recovery technologies such as thermal processes, solvent injection and geomechanics impacts;
- production engineering such as fracturing technologies and horizontal well;
- environmental impacts such as surface waste treatment and disposal;
- producing NCHs in deep water environment.

There are a number of issues that will affect research and the efficient implementation of the latest technologies in producing NCHs. Government regulations and incentives, such as end-user price control in China (petrol products and electricity) and possible subsidies or tax incentive for R&D cost, will be vitally important in encouraging companies' investment in technology innovation and implementation.

Academic and industrial research have different nature and focus. Academic research is usually long-term with a focus on innovation while industrial research emphasizes the efficient implementation of innovative technologies to create values for the shareholders. The need for technology innovation and implementation provides enormous opportunities for industry-academia collaborations. A healthy collaboration between academia and industry will be the optimal way to technology innovation and implementation to enhance NCHs production. The session participants from both industry and academia fully acknowledged the collaboration opportunities and well understood the potential mutual benefits of such collaborations under favorable government polices and incentives.

Future Collaborations and Justification

The session participants agreed to continuously work together to survey the technology development and the government regulations and energy policies regarding to the exploration and development of NCH resources. In addition, a white paper will be developed and focused on the impact of technology advance on exploration and development of NCH resources in which academia-industry collaborations can play an important role.

Treatment of Eye Disease with Chinese Herbs and Their Active Principles

Co-Chairs

U.S.: George Chiou, Texas A&M University System Health Science Center
Chinese: Youzhi Tang, China Academy of TCM
Mark S.X. Hu, China Academy of TCM

Other Collaborators

Bo Xuan, Xiurong Xu, Jiansheng, Qiping Wei, Zho-HuiSong, Zengyuan Zhang, Jiansheng Gao, Quansheng Yao, Clay Beauregard, Junguo Duan, Yuling Wang, Jun Feng, Anna Lichorad, Peizhi Gao, Hong Qiu, Lixin Qiu, Lie Wu

Session Summary

As the population grows old, numerous eye diseases become serious health problems. They include glaucoma, uveitis, dry eye syndrome, myopia, AMD, cataract, retinitis pigmentosa, diabetic retinopathy, proliferative vitreo-retinopathy, etc.

Glaucoma is the best controlled eye disease by pharmacological agents, including drugs to suppress intraocular pressure, to facilitate ocular blood flow and/or to protect apoptosis of ocular neurons. Others, such as myopia and cataract are mostly treated by surgery. Yet, there are rooms to be improved pharmacologically for their treatments in the future. Anecdotal treatments have been applied to the treatment of dry eye syndrome using artificial tears and hormonal substitution. The real pharmacological agent, cyclosporineA has just been put in the clinics only very recently.

The real challenges of the treatment of eye diseases fall on the age-related macular degeneration (AMD). Although some drugs have been developed to treat wet-AMD (15% patient population) with photodynamic therapy (PDT) and vascular endothelium growth factor (VEGF) blockers, there is no drug developed for the treatment of dry-AMD (85% patient population) so far. It is obvious that drugs for dry AMD are the future stars to be invented. As the etiologies of eye diseases and action mechanisms of eye drugs are elucidated, pharmacological treatment of eye diseases become very bright in the near future.

Treatment of retinitis pigmentosa, diabetic retinopathy and proliferative vitreo-retinopathy are even harder to treat pharmacologically and are the virgin territory for future R&D of eye drugs. Therefore, the future of ocular pharmacology is bright and promising.

Findings/Recommendations

The roundtable discussion proceeded smoothly and fruitfully with 20 presentations and approximately 50 participants. The presentations covered almost all aspects of major eye diseases. It was most exciting to find out that some eye diseases that are almost impossible to treat with Western medicine are treatable with Chinese medication. AMD, retinitis pigmentosa, and proliferative vitrea-retinopathy are some of the serious eye diseases that can be treated with Chinese herbs, but not by Western medicine. Therefore, further studies on treatment of eye diseases with Chinese herbs and their active principles are highly warranted.

Further, Center for R&D of Eye Drugs from Chinese Medicines will be created. It will be housed in the Eye Hospital of China Academy of TCM at Beijing. The Center will be joined by the Institute of Ocular Pharmacology at Texas A&M University System, and at least four outstanding institutions in China. Since scientific development of Chinese medicine is one of the major national goals of China, the collaborations between the U.S. and China is highly encouraged and supported by the Chinese government.

Future Collaborations and Justification

Future collaborations between the Institute of Ocular Pharmacology at Texas A&M University System Health Science Center and Chinese institutions are already under way. We added two outstanding collaborators to the three existing collaborators during the meeting. They are China-Hua University (ranked #2, next to Peking University in China) and Chengdu Medical University of TCM (ranked #1 amongst all the Medical Universities of TCM in China). The existing collaborators include China Academy of TCM, Nanjing Medical University of TCM and Peking University College of Medicine.

Dr. Chiou is taking development leave this year to go to China to solidify the actual research collaborations among the aforementioned institutions and to initiate the Center for R&D of Eye Drugs from Chinese Medicines. Further, a research proposal entitled, "Treatment of AMD with Chinese herbs and Their Active Principles" has been drafted with Dr. Chiou as PI and Dr. Tang as Co-PI. The budget to be requested is ¥7,050,000 RMB (US \$881,250) for five years. The personnel involved in this project includes Dr. Li, Zhang, Dr. Jun Feng, Dr. Lixin Qiu, and Dr. Jingjin Zhang.

According to J. Amer. Medical Association, the number of patients who visited alternative medicinal practitioners (628 Million visits) was approximately two fold of those who visited primary care physicians (385 million visits) in 1997. The total costs of alternative medicine and Chinese herbs in the US alone were \$21.2B and \$2.5B, respectively in 1997. Therefore, scientific research on Chinese herbs is highly justifies.

Because all these activities are not funded by budgeted sources, as yet, seed money will be most helpful to facilitate the achievement of the aforementioned goals.

Other Information

Dr. Chiou was elected as Vice President of Ophthalmology Division in the World Federation of Chinese Medicine Societies.

A new book entitled, Ocular Pharmacology in Ophthalmology Clinics of North America, was just published in December of 2005. The book was dedicated to Dr. Chiou because of his contribution in bringing China-U.S. medicine together in ophthalmology.

Wetland Conservation, Nature-Based Tourism, and Rural Economic Development

Co-Chairs

U.S.: Jianbang Gan, Texas A&M University
Andrew Skadberg, AdventGX;
Yongxia Skadberg, Texas A&M University

Chinese: Bihu Wu, Peking University

Other Collaborators

Rick Giardino, Texas A&M University

Session Summary

The proposed research roundtable focused on the opportunities and challenges that face both China and the U.S. related to wetland and other natural resource conservation, rural economic development, and sustainable strategies for tourism development. The roundtable topics included: (1) opportunities and challenges for protecting wetlands and their associated habitats (terrestrial and aquatic); (2) creation of technical assistance and access to information and services to enhance rural economies through diversification into nature-based tourism; (3) development/integration of information technology and GIS-based tools for decision-making; (4) development of research approaches for socio-economic and environmental impact assessments; and (5) policies and management strategies for environmental and economic sustainability.

The roundtable session drew 20 scientists/scholars from six U.S. institutions/organizations and seven Chinese institutions/organizations. In addition, about a dozen graduate students from Peking University attended. Twelve papers were presented. These presentations covered a wide range of topics related to the theme.

This roundtable provided an arena for promoting (a) exchange of research work among Chinese and U.S. participants and (b) development of partnerships for future research in natural resource conservation and rural economic development.

Findings/Recommendations

Major findings:

- Rapidly increased demand for natural-based recreation has created tremendous pressure on natural resources, which calls for interdisciplinary research to identify management strategies and policy for sustainable natural resource management and rural economic development.
- The role of market-based approaches to promoting natural resource conservation in China has been recognized, yet much research needs to be done on how to properly and effectively incorporate these approaches into policy-making.
- Information technology and decision-making tools have become necessities for sustainable natural resource management and nature-based tourism development. There is great potential for collaboration between the U.S. and China in this area.
- There is a lack of education programs to the public on natural resource conservation in China. U.S. experience and know-how would be helpful to China.
- Although the U.S. and China share many similarities in terms of natural resource conservation and nature-based tourism development, some unique features of China such as coexistence of residents and tourists in national parks or reserved areas, different land tenure systems, and different decision-making processes entail special attention and represent opportunities for research cooperation.

In lieu of these findings, we formed several working groups to continue dialogue and foster future cooperation in the following focal areas:

- Water and other natural resource management
- Market-based or incentive programs for natural resource conservation
- Decision-making models for natural resource management
- Human dimensions of natural resource management and rural economic development
- Technology and applications
- Education

Key persons for each group were identified to lead future efforts. We also proposed to publish proceedings of the papers presented at the roundtable.

Future Collaborations and Justification

While we will continue to strengthen our collaboration with Peking University, we propose to expand our collaboration to other institutions and regions in China. Potential collaborating institutions include Beijing Normal University, Beijing Forestry University, and Fujian Agriculture and Forestry University. Some collaboration has already been underway. For instance, our Chinese counterparts are working with us in planning for the 2006 National Forest Economics Forum in China to bring scholars together to discuss some emerging and important forestry issues in China such as land tenure and incentive systems for private/community forest landowners, impacts of China's wood product imports on global markets and forest conservation, trade and invasive species management, and carbon sequestration in forests, among others. In addition, our collaborators have inquired about the possibility for short-term training of their graduate students and scholars at Texas A&M University. Building on the linkages established in the China-U.S. Relations conference, we hope to develop long-lasting and mutually beneficial research collaboration with Chinese institutions in selected natural resource areas that are vitally important to both countries.

Other Information



“East Asia & the United States in the Age of Globalization”

Co-Chairs

U.S.: Richard Chilcoat, Dean, George Bush School of Government and Public Service, Texas A&M University

Chinese: Jisi Wang, Dean of the School of International Relations, Peking University

Other Collaborators

From Texas A&M University, George Bush School: Professors Joe Cerami, Lorraine Eden, Jeff Engel, Xincheng Liu, Chuck Hermann, Mike Desch; From other U.S. universities: Professors Helen Milner (Princeton), William Overholt (RAND), Susan Shirk (UC, San Diego), George Yu (University of Illinois) From China: Professors Jin Chanrong (Renmin University), Li Yonghui (Beijing Foreign Studies U), Qin Yanqing (Foreign Affairs University), Yan Xuotong (Tsinghua University), Yuan Peng (China Institute for International Relations), Ren Xiao (Shanghai Institute of International Studies), Su Changhe (Fudan University), Jia Qingguo (Peking University), Wang Zhengyi (Peking University), Yuan Ming (Peking University), Wang Yong (Peking University). (In addition a number of individuals from other countries in Asia participated as part of the Beijing Forum. See below.)

Session Summary

This roundtable differed from most of the others in that one of the two organizing units, the School of International Relations at Peking University, was also involved in another conference that substantially overlapped with the China-U.S. Relations conference. To enable maximum participation, it was agreed to merge this roundtable into the other event, the Beijing Forum. Several implications resulted from this merger. First, the scope of the dialogue expanded. Second, the number of participants increased. As a result more sessions were held to accommodate the increased number of those involved and less time was devoted to formal follow-on exchanges of each presentation. Sessions were held on (a) China-U.S. Relations in the Asian Context, (b) Prospects for Asia-Pacific Economic Cooperation, (c) America's Role in the Security of East Asia, and (d) Global Impact. Although a number of lively exchanges occurred, the number and range of topics examined prohibited forming specific findings or recommendations.

Future Collaboration and Justification

Unquestionably the most important outcome of the roundtable in the adopted format was the range of contacts made among Chinese scholars (and others in Asia) with similar or parallel professional and scholarly interests. These occurred at two levels—informal individual exchanges and more formal agreements. Two formal agreements represent major advances for further collaboration. Dean Chilcoat signed a Memorandum of Understanding with his counterpart at Peking University that establishes a commitment by both sides to explore possible areas of exchange and collaboration during the coming year. A similar agreement was signed with the Shanghai Institute for International Affairs (SIIS) during the conference in Beijing calling for exchanges in specific areas. As a follow-up on the SIIS agreement, a graduate student at that institute is in residence at the Bush School for spring of 2006. In addition, a group of experts from SIIS will participate at the Bush School in a seminar in to be held in College Station in April of 2006 on China-U.S. perspectives on global energy. Arrangements are now underway for the first Bush School student to spend time in the summer of 2006 at SIIS.

Other Information

Two Bush School students attended the roundtable in Beijing as observers and note takers. They have prepared a separate report on their experience.