Proceedings of the China-US Forum on Science and Technology Policy

Beijing

People's Republic of China

October 15-17, 2006

Sponsors

Ministry of Science and Technology (MOST) of the Peoples Republic of China

Chinese Academy of Sciences (CAS)

National Natural Science Foundation of China (NSFC)

U.S. National Science Foundation (NSF – Grant No. OISE-0540071)

Motorola Foundation

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Notes of Preparation

This proceedings document was compiled from written and audio-taped notes of the seminar sessions and from printed texts and PowerPoint files submitted by session presenters, luncheon and dinner speakers, and panelists. Wherever possible, for accuracy, the available printed texts were given precedence over written or audio-taped notes. In both cases, the presentations appearing in this document have been edited for clarity.

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Keynoters' Statement

The overall objective of the China-U.S. Science and Technology (S&T) Policy Forum was to address issues important to the future bilateral S&T relationship of the U.S. and China. This was accomplished by: (1) comparing the development and implementation of science policies in China and the United States, and (2) exploring timely S&T policy issues of importance to current important bilateral issues facing the two counties.

A common element of the deliberations has been a determination to be useful to policy makers, governmental and non-governmental, in both countries. This was accomplished by addressing policy issues relevant to both China and the United States in a realistic, thorough, and yet scholarly fashion. While this effort was forward looking, it was also rooted firmly in lessons learned from past experience. The Forum was careful to focus on issues of real importance to policy makers. One part of this was to provide a credible, comprehensive, and helpful record of the development, implementation, and evolution of the S&T policies that have shaped the U.S.-China relationship. This was accomplished, whenever possible, by utilizing contributions from individuals originally involved in establishing the policies that have shaped this relationship.

The Forum organizers recognized the desirability of incorporating specific governmental needs into the deliberations and outcomes from such a Forum (in addition to the broader academic, industrial, and policy benefits). The 11th U.S.-China Joint Commission on Scientific and Technological Cooperation Meeting (JCM), chaired on the Chinese side by the Minister of Science and Technology and on the U.S. side by the Science Advisor to the President and Director of the Office of Science and Technology Policy, two years ago addressed the need of such a Forum. The 11th JCM, held in Washington DC on October 12, 2004, took the following action:

> *A proposed U.S.-China Forum on Science and Technology Policy, potentially to be linked with the next (12th) JCM, was discussed. This Forum will compare the development and implementation of science policies in China and the U.S.*
>
> *Action: Both sides approved the concept of holding a U.S.-China Forum on Science and Technology Policy, linked with the 12th JCM to be held in 2006.*

Subsequently it was agreed that the 12th JCM would be held in Beijing on October 18-19, 2006 and the China-U.S. Science and Technology Policy Forum would be held on October 15-17, the three days immediately preceding the JCM. The Forum began with a reception in honor of the US participants held on the evening of October 15, and the Forum began on the morning of October 16 and continued through October 17. Reports on the Forum were made to the JCM on October 19.

The core of the Forum consisted of two roundtables. The first of these focused on "Lessons Learned during the Evolution of China-U.S. Relations since Normalization." The second addressed "U.S.-China Relations in the Globalized 21st Century." There was

a general consensus among participants about the importance of science and technology to the development of their respective economic, social and cultural systems. It was also noted that the significance of international cooperation in advancing the mutual interests of both countries was great. However, it was also agreed that the Sino-US bilateral science and technology relationship may be more important to China than to the United States at this stage of development.

But science and technology, and the policies that relate to them, are not seen in a vacuum. The bilateral science and technology relationship is important to the overall Sino-US bilateral relationship as well, often stabilizing that relationship during periods of political or economic stress. Speakers frankly spoke of science- and technology-related issues about which there is still considerable friction. U.S. participants pointed out that although China has made considerable progress in the protection of intellectual property rights, it still has some way to go. Lack of adequate protection constitutes a barrier to expanded cooperation, particularly in technological cooperation involving private industry. For their part, the Chinese participants clearly noted the resentment found in China over continuation of stringent export controls of some high-tech products. Both sides expressed dismay about the visa issue, although both agreed that valuable progress is being made on that problem.

The diversity of participation in the Forum was extraordinary. U.S. participants included two former presidential science advisors, one former and one current university president, a former director of the National Science Foundation, and several well-known scholars conversant with Chinese S&T. Six young scholars selected by means of a nationwide competition also participated in the Forum. Participants from China included a former vice minister and a former deputy secretary-general of the Ministry of Science and Technology (MOST), a former ambassador to the United States, the vice-president of the Natural National Science Foundation of China (NSFC), five former science and technology counselors to the United States, and one university president.

Forum participants unanimously lauded past achievements in Sino-U.S. science and technology relations. Opportunities for expanded cooperation, have not been sufficiently exploited and the science and technology policy framework needs repair. The Chinese and American political leaderships need more consistency in their support of bilateral policies that are "win-win." More should be done to educate U.S. policy makers and the public about the importance of science and technology in the U.S.-China bilateral relationship. Similar efforts will be helpful in China. The result will be a policy environment better suited for a future in which both countries will play leading political and economic roles – roles that are rooted in successful applications of science and technology.

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Former Science Advisor to President Nixon

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Preface

The China-U.S. science policy dialogues began in 1999. The first Sino-U.S. Science Policy Seminar, held in Beijing in October of that year, addressed R&D and the Knowledge-Based Society. Over three days the expert participants analyzed ways in which the production, dissemination and application of research are linked, with emphasis on the U.S.-China relationship.

The 1999 seminar and the eight seminars, workshops and Forums that followed did not just happen. They were all part of a carefully planned initiative to address U.S.-China relationships in science and engineering policy. This initiative was conceived by the U.S. National Science Foundation (NSF) and the National Natural Science Foundation of China (NSFC), and carried out on the U.S. side through grants to the Science and Trade Policy Program of the George Mason University School of Law.

Over the years the results have been impressive. A bookshelf of publications has resulted. Proceedings volumes, much like the present one, have provided invaluable information and data on policy-relevant topics of interest to scholars and policy-makers alike. But modern technology has made this information much more available and accessible than through mere print publication. Both primary and secondary access through the Internet has brought this valuable knowledge to a worldwide audience. For example, on the U.S. side the site that contains the policy dialogue materials:

http://www.law.gmu.edu/nctl/stpp/us_china.php

is one of the most popular "Google" sites related to bilateral U.S.-China science policy issues. It contains not only the publications resulting from the dialogues in English and Chinese, but also includes recent literature relevant to U.S.-China S&T policy and valuable links to other science policy sites related to China.

The U.S.-China Forum on Science and Technology (S&T) Policy is the capstone of this initiative. Because the Forum addressed important current policy issues, the Ministry of Science and Technology (MOST) of China and the Office of Science and Technology Policy (OSTP) of the United States played important roles. Reports on the Forum were made to the 2006 Meeting of the United States (U.S.)-People's Republic of China (PRC) Joint Commission on Scientific and Technological Cooperation (JCM), held the two days immediately following the Forum in Beijing. This provided a "real time" opportunity to inform decision makers in both governments.

Unique (at least in scale) to the Forum among all of the events in the dialogue was the participation of young scholars. On the U.S. side a group of extremely competent and bright young scholars was led by six selected in a very competitive national competition. The NSF and the Motorola Foundation provided funds for grants that permitted the six not only to participate in the Forum but also to visit institutions and carry out studies in China related to their research.

Just as the first of the dialogues in 1999 aimed to define the intellectual base for the initiative, the 2006 Forum addressed the current "big picture" in China-U.S. S&T relations. Just as Janus in Roman times, the Forum faced in two directions. It reviewed the past China-U.S. S&T relationship since normalization of relations. This was done with the objective of extracting valuable "lessons learned" during this period. The fact that some of the leaders on both sides who shaped that early policy relationship were Forum participants made this part especially exciting.

But it was the other face of Janus that was most important in the Forum: the future. Lessons learned are important, and most importantly as they apply to the future. So it is fair to characterize the Forum as predominantly "future oriented." Insightful presentations were made not only by government leaders but also by industrial entrepreneurs and university scholars at the cutting edge of change. Much of the material in this volume will be helpful to their colleagues and successors in the future.

The Forum's major objective was to be useful to decision makers, scholars and the interested public in both countries. This implies that these groups must know about the Forum, the knowledge it produced, and how the knowledge can be accessed. In other words, a successful dissemination of the Forum results is as important as the success of the Forum itself.

An aggressive dissemination effort is being launched in early 2007 by the GMU Science and Trade Policy Program. It aims to identify policy issues related to U.S.-China S&T cooperation that are important to policy makers. These topics would be explored in a series of "Policy Briefs" related to the selected issues. They will be web based and employ extensive links to other web-based material. The content of the policy briefs will be based on proceedings of the US-China science policy dialogues, this Forum, and other reliable sources. There will be a process to generate, evaluate and update the briefs to accommodate changing facts and evolving needs of the policy community. Both experts and the broader interested public will be utilized in the process of developing and editing these briefs.

As noted in the preface to an earlier publication under this initiative, identifying and implementing correct S&T policies is in many ways more complicated than just doing good science. The boundary conditions are more complex and uncertain, with national and geopolitical considerations that are hard to define and are ever changing. People are more complicated than things. Although the challenge is great, it is almost certain that better policies will result from better understanding on the part of policy makers. This is true even if that understanding is incomplete and temporary. We sincerely hope the results of this Forum will contribute to at least some of that better understanding.

Tom Ratchford

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January 10, 2007