U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON SCIENCE AND TECHNOLOGY
SUBCOMMITTEE ON RESEARCH AND SCIENCE EDUCATION

HEARING CHARTER

Coordination of International Science Partnerships

Tuesday, March 24, 2009
2:00 p.m. – 4:00 p.m.
2318 Rayburn House Office Building

1. Purpose

The purpose of this hearing is to receive testimony on draft legislation to recreate a committee under the National Science and Technology Council for the coordination and planning of international science and technology activities and partnerships between and among Federal research agencies and the Department of State.

2. Witnesses:

- **Dr. Jon C. Strauss,** Chairman of the National Science Board Task Force on International Science, which produced the 2008 report, "International Science and Engineering Partnerships: A Priority for U.S. Foreign Policy and our Nation's Innovation Enterprise."

- **Dr. Norman P. Neureiter,** Director of the Center for Science, Technology and Security Policy, American Association for the Advancement of Science.

- **Mr. Anthony "Bud" Rock,** Vice President for Global Engagement at Arizona State University.

- **Dr. Gerald Hane**, Managing Director, Q-Paradigm.

3. Overarching Questions:

- What are the respective roles of the Department of State and the science agencies, such as the National Science Foundation, the Department of Energy and the National Institutes of Health, in international science and technology (S&T) cooperation? What is the role of the Office of Science and Technology Policy (OSTP) in fostering international S&T cooperation and in coordinating federal activities?
- If OSTP reconstituted a Committee on International Science, Engineering and Technology (CISET) under the National Science and Technology Council (NSTC),

what should be the unique role and responsibilities of that committee? What lessons can be learned from the previous CISET of the 1990's? Does the draft legislation being considered appropriately describe the purpose and responsibilities of an effective CISET?

- Can CISET serve an important function absent additional funding for S&T cooperation? Does creation of CISET ensure active participation and support from the science agencies and from the Department of State? If not, what other steps must be taken to make CISET an effective coordinating body? Are any of those steps legislative?
- How else might OSTP and/or the science agencies play a greater role in bringing science and technology to bear on foreign policy?

4. Overview

Science and technology were closely tied to American diplomacy in the early years after the founding of the United States. In fact, the first Secretary of State, Thomas Jefferson, was also designated the administrator of the nation's first patent law, and the first efforts to establish a bureau of weights and measures were also associated with the Department of State. By the 1830's, this close relationship between diplomats and scientists seems to have diminished. It was not until World War II that science and technology once again began to play a prominent role in the State Department. Nevertheless, the U.S. continued to engage in international S&T cooperation for other purposes. For example, the first International Polar Year, a coordinated international effort to collect and analyze data about the polar regions, occurred in 1882-83. We just completed the third International Polar Year.

There are a number of reasons why the United States has and will continue to engage in international S&T cooperation, including:

- to strengthen U.S. science and engineering by providing our own researchers access to the best researchers and research sites around the world;
- to enable construction of and participation in prohibitively expensive world-class research facilities (either on U.S. soil or foreign sites) by partnering with foreign countries to leverage their funds and scientific talent;
- to address U.S. interests in global matters, such as nonproliferation, water resources, climate change and infectious diseases, in part by ensuring that foreign and international (e.g. U.N.) decision makers have access to the best science;
- to help build technological capacity and address health and resource crises in other countries in order to help maintain U.S. national security and economic interests; and
- to help build more positive relationships with other countries – what is often called "science diplomacy."

In addition to the Department of State and the U.S. Agency for International Development (USAID), every Federal agency that either does its own research or funds academic research (or in most cases, both) supports international S&T cooperation, including Departments of Agriculture, Defense, Energy, Commerce (includes NIST and NOAA), and Health and Human Services (includes NIH) as well as NASA, the Environmental Protection Agency, and the National Science Foundation (NSF). The Office of Science and Technology Policy advises the President on matters of science and technology as they relate to international issues, and provides intellectual support to the Department of State and USAID on S&T matters. State and USAID also turn to NSF and the mission agencies for intellectual input on S&T-related issues that fall within those agencies' areas of expertise, such as health, energy or water. The mission agencies, on the other hand, turn to the Department of State for assistance in negotiating formal agreements with other nations. For a more detailed description of the respective roles of State, NSF and the mission agencies, see the charter from our April 2, 2008 hearing[1].

The National Science Board (NSB) recently issued a report, "International Science and Engineering Partnerships: A Priority for U.S. Foreign Policy and our Nation's Innovation Agenda,"[2] in which the Board makes a series of recommendations for increased coherence and coordination of federally sponsored international science and engineering activities.

5. Role of the Office of Science and Technology Policy and the National Science and Technology Council in Coordination of International S&T partnerships

The Director of OSTP is, by statute, the President's adviser on science and technology matters for all areas of national concern, including foreign relations and national security, as well as for "emerging international problems amenable to the contributions of science and technology."

The OSTP Director, through NSTC, is also responsible for interagency coordination of federal research and development programs, which includes programs, such as the International Polar Year, that are part of an international partnership. But OSTP does not have an explicit mandate for coordination of all international activities, nor does the office have any program budget or management responsibilities of its own.

The NSB report mentioned previously calls on OSTP to take a more active and prominent role both in setting federal priorities for international science and engineering cooperation and in coordinating efforts across agencies. For example, the Board recommends that OSTP "should directly charge Federal agencies to include specific components of international R&D in their integrated programs" and urges NSTC to reestablish a Committee on International Science, Engineering and Technology (CISET). Such a Committee existed in the 1990's under the Clinton Administration. Two of today's witnesses sat directly on that Committee, one from the State Department (Bud Rock) and

[1] http://science.house.gov/publications/hearings_markups_details.aspx?NewsID=2134
[2] http://www.nsf.gov/nsb/publications/2008/nsb084.pdf

the other from OSTP (Gerald Hane). The 1998 Annual Report about NSTC contained the following description of CISET:

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The Committee on International Science, Engineering, and Technology (CISET) addresses international scientific cooperation as it relates to foreign policy and the Nation's R&D agenda. CISET's mandate is not defined within any particular area of S&T. Rather, CISET's role is to review the wide range of bilateral and multilateral international scientific programs carried out by the technical agencies in the U.S. Government, and to identify opportunities for international cooperation and interagency coordination in response to new needs and opportunities. CISET's activities are directed toward three broad, complementary goals to:

> *Identify, and coordinate international cooperation that can strengthen the domestic S&T enterprise and promote U.S. economic competitiveness and national security;*
>
> *Utilize American leadership in S&T to address global issues and to support the post-Cold War tenets of U.S. foreign policy -- promoting democracy, maintaining peace, and fostering economic growth and sustainable development; and*
>
> *Coordinate the international aspects of Federal R&D funding across federal agencies.*

CISET supported the following five working groups during 1998: the Emerging Infectious Diseases Task Force; the Interagency Working Group on Russia; the Interagency Working Group on the Organization for Economic Cooperation and Development (OECD); the Interagency Working Group on Japan; and the Interagency Working Group on China. CISET also operates a number of ad hoc working groups to address issues as they arise, such as APEC and the Summit of the Americas.

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The Bush Administration OSTP disbanded CISET in 2001. Dr. Marburger explained in his testimony before the Research and Science Education Subcommittee last year his approach to coordinating international STEM partnerships:

> *During the past six years, OSTP has experimented with various arrangements for coordinating agency international science and technology programs. The most successful approach has been one that draws together agencies in meetings focused on specific science topics such as nanotechnology or genomics, or on specific countries such as China or Brazil. The former meetings occur naturally in the NSTC context, the latter occur on the schedule of high-level bilateral commission meetings to review progress under the S&T agreements.*

But many other experts, including witnesses at today's hearing, argue that significant opportunities are missed by this ad hoc approach to international S&T cooperation, especially opportunities at the intersection of science and diplomacy.

6. The International STEM Cooperation Act of 2009

The draft legislation being considered today would recreate a Committee on International Science, Engineering and Technology under NSTC. It would assign five key responsibilities to CISET:

- coordinate international S&T research and education activities and partnerships across the Federal agencies (which includes of course the technical agencies, but may also include regulatory and other agencies that work internationally on issues with an S&T component).
- Establish priorities and policies *for aligning, as appropriate,* international S&T partnerships with the foreign policy goals of the United States.
- Identify opportunities for new international S&T partnerships that advance both the S&T mission of the technical agencies involved and the public diplomacy, national security or other foreign policy mission of the Department of State.
- Work with foreign governments (in coordination with the Department of State) to establish and maintain S&T partnerships.
- Maintain an inventory of international S&T activities funded by the U.S. government for purposes of information sharing between federal agencies and other stakeholders in the U.S. S&T enterprise.

7. Questions for Witnesses:

Dr. Strauss

- Does the draft legislation being considered appropriately describe the purpose and responsibilities of an effective CISET as imagined by the NSB Task Force on International Science?
- Can CISET serve an important function absent additional funding for S&T cooperation? Does creation of CISET ensure active participation and support from the science agencies and from the Department of State? If not, what other steps must be taken to make CISET an effective coordinating body?
- What additional recommendations did the NSB task force make regarding the roles of the Office and Science and Technology Policy and the science agencies in bringing their science and technology expertise to bear on foreign policy?

Dr. Neureiter, Mr. Rock and Dr. Hane

Similarly, all three of these witnesses were asked a slight variation of the overarching questions, tailored to their personal experiences within the Department of State or the Office of Science and Technology Policy.