

SCIENCE POLICY

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U.S. Embassy in Beijing Extends the Term of Validity for Visas

The U.S. Embassy in Beijing, China, has extended the term of validity for U.S. visas issued for student, academic exchange, and vocational training purposes. On June 20, the U.S. Embassy and Consulates General in China, as well as U.S. embassies and consulates around the world, began issuing student visas (F-1/F-2), exchange visas (J-1/J-2), and vocational training visas (M1/M2) valid for 12 months with multiple entries to qualified Chinese citizen applicants. The previous maximum validity of U.S. visas for these purposes was six months and two entries.

On a reciprocal basis, the Chinese Ministry of Foreign Affairs has similarly agreed to begin June 20 to issue visas valid for 12 months with multiple entries to U.S. citizens visiting China for these educational purposes. While China and the United States will, as a general rule, issue maximum-validity visas to each other's qualified citizens, each country may limit the period of validity and number of entries on a case-by-case basis, as required by their respective laws and regulations.

According to the U.S. Embassy in Beijing, this extension of visa reciprocity for students, following a similar expansion agreement in January 2005 on business and tourist visas, will significantly enhance mutual understanding between China and the United States. The longer validity term means that student travelers will not have to renew their visas as frequently as before, thus saving time and money and facilitating holiday visits home and emergency travel. This agreement is a sign of the United States' continuing interest in attracting talented stu-

dents from China and elsewhere to U.S. campuses, according to the embassy.

The embassy also announced an increase in the volume of student applications and visas issued in 2005 compared with 2004. In May 2004, the U.S. Embassy and the four consulates in China issued 1518 F-1 (student) visas and 309 J-1 (exchange visitor) visas, which increased in May 2005 to 2314 F-1 (student) visas and 617 J-1 (exchange visitor) visas.

U.S. Announces Department of Energy Office in Beijing, China

U.S. Secretary of Energy Samuel W. Bodman has announced the establishment of a Department of Energy (DOE) office in Beijing, China. The office will support DOE's cooperative efforts with China on energy and nuclear security issues. The announcement of DOE's Beijing office was made in conjunction with the first meeting of the U.S.-China Energy Policy Dialogue, held in Washington, D.C., on June 30.

"The United States and China have a constructive relationship on a variety of issues, including energy security and nuclear security," Bodman said. "Through the U.S.-China Energy Policy Dialogue, and with on-site assistance from the new DOE office, we can enhance our cooperation to promote energy efficiency, diversify our energy supplies, expand the use of clean energy technologies, as well as continue our mutual efforts to increase nuclear security in both our nations."

The Beijing office will provide guidance and support for DOE's cooperative activities with China, in both the energy and nuclear security fields. The office will be located within the U.S. Embassy in Beijing.

Inside China, News from the Chinese Academy of Sciences

The Chinese Academy of Sciences (CAS) recently announced numerous activities in the areas of energy, nanotechnology, and materials research facilities.

According to CAS news sources, China's Ministry of Science and Technology announced on July 1 in Beijing a decision to invest an additional 50 million yuan (\$6 million USD) in the country's ongoing research on thermonuclear experimental reactors. The basic study on fusion reactions, which would be coordinated by Huo Yuping, a professor at Zhengzhou University in central China, obtained the largest sum of funds of the National Basic Research Program in fiscal year 2005-2006.

Scientists with the CAS Institute of Plasma Physics (IPP) have already developed an experimental advanced superconducting tokamak, one prototype of the

International Thermonuclear Experimental Reactor (ITER), which costs €10 billion and gathers researchers from the European Union, the United States, Japan, Russia, South Korea, and China. The ITER is widely regarded as a testing step between current plasma physics studies and electricity-producing fusion power plants of the future. According to the CAS news source, the ministry expects the additional investment into the thermonuclear research to speed up the construction of such reactors. Using deuterium, which is everywhere in seawater, as fuel for reactions, a hydrogen plasma torus operating at over 100 million degrees Celsius will produce 500 MW of fusion power. The ITER, according to CAS, is based on that idea.

In a separate action, CAS executive vice president Bai Chunli held talks with Minh Quang Tran, director of the Swiss Plasma Physics Research Center and nominated leader of the European Fusion Development Agreement, on June 29 at the IPP in Hefei, capital of East China's Anhui Province. After the meeting, Tran and IPP director Li Jiangang signed an agreement on bilateral cooperation.

In another area related to energy, a China-United Kingdom symposium on hydrogen energy was held in Dalian, a coastal city in northeast China. Under the joint auspices of CAS, the National Natural Science Foundation of China (NSFC), the Royal Society in the United Kingdom, and the BP Group, the meeting was hosted by the CAS Dalian Institute of Chemical Physics. As a component of the UK-China Partners in Science program, the six-day meeting provided a forum for scientists from both nations to share information regarding developments in hydrogen energy. Scholars had discussions on various issues of hydrogen development ranging from strategy, national standards, and demonstration site to fuel cell technology.

In the area of nanotechnology, the National Technical Committee on Nanotechnology of the Standardization Administration of China (SAC/TC279) held an inauguration ceremony on June 20 in Beijing. Chair of the National Standardization Committee, Li Zhonghai, unveiled the nameplate of SAC/TC279 at the ceremony. The secretariat of SAC/TC279 will be located at the CAS-affiliated National Center for Nanoscience and Nanotechnology (NANST). CAS executive vice president Bai Chunli, who is also NANST director, will chair the committee.

"The country which completes the standardization work first might greatly influence the future international standards in nanotechnology," Bai said in a recent interview, according to CAS news sources.

Chile Taxes Mining to Fund R&D

The Ministry General Secretariat of the Government of Chile reports in its news publication, *Chile News* (No. 70; June 8, 2005), that a law was enacted in May to create a specific tax on mining in order to fund scientific research and development (R&D). President Ricardo Lagos of Chile said, "...since these [mining] resources cannot be applied to current expenses, but only to science and technology, we are laying the foundation for something very important. Non-renewable resources, such as the products of the mining industry, can be transformed into a highly renewable resource if their proceeds are invested in knowledge, science, and technology."

SAC/TC279 will serve as the cross-sector coordinating body for the purposes of drafting fundamental standards regarding nanotechnology, including terminology, methodology, and safety in the fields of nanoscale measurements, materials, devices, and biomedicine.

China is also expected to make advances in the area of neutron scattering technology. A CAS proposal for the establishment of the Chinese Spallation Neutron Source (CSNS) received support from a 19-member expert panel on June 1 in Beijing. After listening to reports on the project by a research group, the panel had an in-depth discussion on the proposal. Members of the panel reached a consensus that the plan to set up a spallation neutron source with an average beam power of 100 kW and at a repetition rate of 25 Hz is in conformity with the customer's demands, investment scale, construction period, technology feasibility, and China's actual conditions.

CAS recognizes neutron scattering technology as one of the most important tools for the studies of microstructure and dynamic process of matter. It is widely used in various basic and applied fields, ranging from condensed-matter physics, chemistry, biotechnology, and materials science to nanoscience and nanotechnology, nuclear physics, and medicine. A spallation neutron source, a state-of-the-art neutron scattering facility, could produce neutrons by GeV protons colliding a target of heavy metal. Importance has been attached to the source in advanced countries, such as those in the European Union, Japan, and the United States.

The idea of a CSNS for basic research germinated from a visit to the ISIS facility in the United Kingdom in 2000 by a CAS delegation. Considering the rapid development of the source in the world and its urgent need in the country, the panel made the suggestion that the government approve the proposal as a national science project as soon as possible.

In the meantime, the Shanghai Synchrotron Radiation Facility (dubbed the Shanghai Light Source, or SSRF), sponsored by CAS and the Shanghai municipal government with support from the State Council, is under construction, according to CAS. When completed in 2009, it will be comparable with the best similar facilities in the world, serving as a state-of-the-art research platform for various disciplines ranging from life sciences, new materials, and environment to pharmaceuticals, reported CAS.

CAS reports that, with an investment of more than 1.2 billion yuan (\$144.5 million USD), the facility is the largest science

installation ever built by China for the purpose of scientific research. After the facility is put into operation, the third-generation synchrotron light source with more than 60 beamlines and about 100 experimental stations will enable researchers from different disciplines to conduct their studies in the facility.

CAS has also reached out to Italy. CAS president Lu Yongxiang and Italian education minister Letizia Moratti signed a memorandum of understanding and appendixes on bilateral cooperation between the two countries on July 4 in Beijing. The new agreement protocol extends the number of priority fields for collaboration from six to 11, including advanced materials, environmental monitoring, sustainable development, physics, space technology, medicine, pharmacology, and agriculture.

Inside India, News on Energy

Prime Minister Manmohan Singh of India announced on July 13 the creation of the Energy Coordination Committee (ECC), established to guide government policy in the energy sector. The ECC will formulate a coordinated policy response cutting across ministries to improve the overall energy scenario in the country while addressing energy security concerns. The ECC will enable the government to take a holistic view of India's energy needs and policy options.

The ECC will be chaired by the prime minister. The committee will consist of the union ministers of finance, power, petroleum and natural gas, coal, and non-conventional energy sources; the deputy chair and a member of the Planning Commission; the chair of the Economic Advisory Council to the Prime Minister, the national security advisor; and the cabinet secretary and principal secretary to the prime minister, who will be the convener of the committee.

The committee will be serviced by the prime minister's office, and the Energy Division of the Planning Commission will facilitate any policy analysis required by the committee. It will coordinate preparatory work on energy policy and security issues. The committee may also commission specialized studies when the need arises.

The committee will, among other things, identify key areas requiring energy policy initiatives so that the overall objectives of economic development, energy security, and energy efficiency are met; monitor vulnerabilities that directly impinge on energy security aspects; outline the follow-up action needed for implementing identified policy initiatives; identify institutional mechanisms for implementing policies; and periodically monitor key policy decisions.

Earlier in July, Thiru A. Raja, union minister of the environment and forests, informed the members of parliament during the Consultative Committee meeting about the forthcoming summit of the conference of parties to the UNFCCC and the meeting of parties to the Kyoto Protocol in November and December of this year, where a number of international initiatives related to climate change are under way. The summit is likely to make a decision on a technology package for cleaner energy production, he said. India is also engaged with the United States and the European Union in discussing relevant issues of energy security and of lowering carbon intensity in the global economy, he said. The minister updated parliament on the Indian position as the supplier of carbon emission reduction (CER) units under the Clean Development Mechanism of the Kyoto Protocol.

The ministry also reported that India has called on the developed countries to take action to reduce their emission of greenhouse gases with respect to the baseline of 1990 over a period of time and provide technical and financial assistance to developing countries in order to facilitate cleaner development in these countries. So far, the efforts of developed countries in this direction have been dismal, the ministry said, and therefore it is all the more essential for developed countries to take up greenhouse gas mitigation measures and demonstrate their commitment to the global climate. In addition to mitigation measures, they should also take concrete steps toward the development, dissemination, and deployment of cleaner energy technologies in developing countries, the ministry said. □

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