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SPECIAL ISSUES

Protect Three-Gorge Area Using Biotechnology

LIU Di, a senior official of the State Council Three Gorge Office, said recently that China will protect the ecological environment of Three-Gorge Dam area under the following technical lines: preventing eutrophication across the tributaries and gulf; protecting drinking water sources; operating the urban sewage and garbage treatment facilities in a smooth manner; containing industrial and mobile pollutions; reducing the contaminations to rural areas; strengthening the ecological control of the drawdown areas; establishing a water contamination reporting and emergency response mechanism; and enhancing the geological disasters prevention and control for Phase III project.

LIU added that to establish a long term mechanism for protecting the ecological environment of Three-Gorge Dam area, his office is working on both biotechnological and engineering means and ecological construction models for the area, along with rational distribution of water reservoirs resources and related policies and regulations. These will be translated into the socalled 7-plus-1 special projects, including 7 pilot projects for ecological environment reconstruction and protection, and 8 special projects for evaluating the accomplishments and efficiency of the ecological environment monitoring system. Of them, 7 will work on ecological environment control of the drawdown areas, integrated tributary water system control, protecting the drinking water sources at the tributaries, developing ecological breaks along the dam rims, containing contaminations further to both urban and rural areas, and practicing biodiversity protection.

10 Billion Support for High Tech Industry

ZHANG Xiaoqiang, Vice Minister of State Development and Reform Commission said on September 27, 2007 that the Chinese government would further enhance its financial support to the innovation capacity building, during the 11th Five-Year Plan period, in an attempt to facilitate the further development of high tech industry. Meanwhile, China will tap up more investment channels to raise the needed money for the development of high tech industry. During the 11th Five-Year Plan period, the State Development and Reform Commission will make an appropriation worth RMB 6 billion to support 12 key S&T infrastructure projects, including ocean expedition boat, and icing wind-tunnel, with a RMB 4.8 billion appropriation for the Phase III knowledge innovation project of the Chinese Academy of Sciences, and RMB 2 billion for special proprietary innovation projects. The money will benefit the construction and development of 100 national engineering labs, some 50 national engineering centers, and 300 certified industrial centers.

To encourage multi-channel fund raising efforts for high tech industries, the Chinese Ministry of Finance has issued a number of policies concerning investment in start-ups. The State Development and Reform Commission and other government agencies have also issued interim methods or by-laws to regulate venture capital businesses. The State Development and Reform Commission, in collaboration with China Development Bank (CDB) and Shenzhen Stocks Exchange, encourages banking institutions and capital market to enhance their support to the development of China 's industrial innovations and high tech industries.

INTERNATIONAL COOPERATION

China-UK Work on Sustainable Farming

Not long ago, Prof. TONG Yan' an of Northwest S&T University for Agriculture and Forestry, and Prof. David Powlson from a UK experimental station, jointly inked an accord with Yangling Agricultural Town, to implement a cooperative project for enhancing the nutritional management, reducing nitrogen pollution, and improving the livelihood of farmers in Shaan' xi. The project, aiming at an integrated management of nutritional resources, will strive to reduce the applications of nitrogen fertilizers, under the precondition of no reduction of food yield or with some increase of food yield, in an attempt to enhance the utilization of nitrogen fertilizer, and ease the pressure of excessive nitrogen fertilizer application on environmental pollution. The project will be

jointly implemented by researchers, local diffusion professionals, private crop associations, and farmers. They will work together to produce a rational nitrogen fertilizer application plan for the farmers of Guanzhong area and Chenchang County of the Province, with possible diffusion and demonstration for an extended area. The effort will eventually result in a practical application system that is worth further diffusion in other parts of the country.

China-Germany 20-Year Internet Cooperation

It is reported from CNNIC that some 10 Chinese and German scientists recently gathered at Universitaet Potsdam to celebrate the 20th anniversary of internet cooperation between China and Germany. The collaboration between the two countries in the area of internet has produced two milestone results: first email between the two countries, and registration and running of country web name CN. A number of dignitaries, including German foreign minister, CNNIC chairman, chairman of Internet Council, and German internet experts, were invited to be present at the ceremony.

Under the help of German experts, China successfully sent out on September 20, 1987 its first email "Across the Great Wall we can reach every corner of world" to Germany which is the first step China made in connecting with the world through internet. Thanks to the joint efforts of both Chinese and German experts, China registered its own country web name CN on November 28, 1990. In 1994, China became a full member of internet. Under the joint efforts of scientists from both countries, CN server was transferred from Germany to CNNIC in China on May 21, 1994.

According to a report issued by CNNIC, as of June 2007, CN has 6.15 million registered users, surpassing the registered number of COM in the domestic markets, and becoming a dominant web name. At present, CN server has seven overseas connecting nodes, with a disaster preparedness center, ensuring a reliable and efficient service.

China-Australia Light Alloy Cooperation

China Aluminum and Australian Monash University jointly inked on September 29, 2007 an accord to establish a light alloy research center. According to the accord, after the establishment of the center, China Aluminum will invite a number of Chinese universities to be Chinese partners, including Zhongnan University, Shanghai Jiaotong University, and Chongqing University, and Monash University will act in the same manner to invite an array of Australian universities to be the partners of the project, including the University of New South Wales, the University of Queensland, the University of Sydney, the University of Melbourne, Deakin University , Australia' s Commonwealth Scientific and Industrial Research Organization (CSIRO). The research center will mainly work on joint studies, focusing on the design, processing, performance analysis, and diffusion of light alloys. It will also stage training events, expert lectures, and technical demonstrations. In addition to winning the support from government sponsored foundations in both countries, the center will mainly be financed by the enterprises that need the technology.

RESEARCH AND DEVELOPMENT

Chinese Made MRI in Clinical Application

A Chinese made OPM35I MRI, jointly developed by Huadong Normal University and Fudan University Tumor Hospital, has had its proprietary core control component, or digital spectrometer into mass production.

With the support of Shanghai Municipal S&T Committee, Huadong Normal University established a key lab for developing functional MRI, working on some 10 research subjects, including cognition and nerve science, MRI, and associated applications. Researchers worked hard to translate their research findings into commercial applications, using Huadong Normal University as a research center, and enterprises an industrialization base. The University also, in collaboration with Shanghai Tumor Hospital, successfully developed the proprietary OPM35I MRI, which has been granted with a market access certificate. Applied with fully optimized correction solutions, the new system works with a full range of pulse sequence and imaging technologies. Chinese researchers have developed its core technologies, including digital spectrometer, gradient loop, and imaging application software. The proprietary digital spectrometer has been put into mass production.

New Space Measuring Boat Delivered

Yuanwang V, a Chinese made new generation ocean going boat for space measuring activities was officially delivered on September 29, 2007 to its user China Satellite Marine Measuring Department. The new boat is an integration of an array of modern technologies, including shipbuilding, marine meteorology, electronics, machinery, optics, telecommunication, and computer. Made up of two main parts: generic platform and space measuring facilities, the boat is further divided into four systems: navigation, measuring, telecommunication, and meteorology. With a load displacement of 25,000 tons, and a resistance to 12 scale strong winds, the boat can travel through any waters within 60 degrees of southern and northern latitudes. Equipped with an S-band and a C-band measuring system, and a C-band pulse radar, it is able to perform diverse tasks, including tracking rockets, satellite, and aircraft from seas, and communicate with mission centers in a real time manner.

Yuanwang V has a more advanced and beautiful design, compared with its elder sisters, equipped with rationalized and standardized digital facilities. Applied with an optic-fiber based high speed information transmission platform, different major systems can further expand their functions through the platform, realizing resources sharing. The new boat is also designed with the functions of intelligent on-sea diagnosis and failure fixation. The boat is applied with shock and noise reducing technologies, and wind flux changing air conditioning. The cabins on the boat are also designed with more functions for an improved comfortableness for extended stay in an oceanic environment.

NEWS BRIEFS

Chinese Scientist Won EGU Medal

The 3rd international conference of Alexander von Humboldt-Stiftung, co-sponsored by the Chinese Academy of Sciences Institute of Geology and Geophysics and European Geosciences Union (EGU), was recently held to discuss the past, today, and future of East Asian monsoons. Some 130 participants from 12 countries attended the meeting. André Berger, honorary Chairman of EGU, declared LIU Dongsheng, an academician of the Chinese Academy of Sciences, the winner of Humboldt-Stiftung Award this year, for his outstanding achievements in the area of earth and environmental sciences, especially in studying loess. Peter Fabian, the founding father of EGU, conferred the award to LIU.

Participants discussed topics in five areas, either in the form of oral presentation or in

poster'. The meeting has 10 lectures, 52 presentations, and 28 posters, mainly on historical study of ancient monsoons in East Asia and global climate change, ancient data of East Asian monsoons and associated analysis, reconstruction and modeling of ancient East Asian monsoons at structural, orbital, and extended scales, telemetry of ancient East Asian monsoons and associated comparison, and the evolution and effect of modern East Asian monsoons.

The meeting, a grand gathering in the area, reported the latest research findings and developments of East Asian monsoon studies, covering all the areas involving the subject. Presentations were made in an interactive manner, mixed with both theme reports and finding reports, demonstrating the progresses and special features of international studies in the area. Detailed discussions were also made on each topic. The multidisciplinary studies have facilitated exchanges between scientists from different areas and disciplines, allowing them to explore more about the evolution of East Asian monsoons, and associated driving mechanisms, its impacts on global climate, and future developing trends.

Chinese Scientist Won World Environment Award

Prof. NIU Wenyuan, chief scientist of sustainable development research at the Chinese Academy of Sciences, has recently been honored with San Francis Environment Award in 2007 by the Italian selecting committee, for his outstanding contributions to the area of environment and development. The selecting committee thought highly of NIU's contributions to China's environment education, high level training, and public reaching out. The committee issued a statement saying that since 1988, Prof. NIU has released China's earliest report on environment warning system, chaired the nation's sustainable development research, established a theoretical system for China's sustainable development, designed the strategic framework for China's sustainable development, and unveiled the basic rules of development behavior.

At the invitation of Gian Tommaso Scarascia Mugnozza, Chairman of Selecting Committee, and President of the Italian National Academy of Sciences. Prof. NIU attended the conferring ceremony of San Francis Environment Award in Italy. He spoke to the audiences after being conferred with the Award, expressing China's scientific and civilized attitude towards the development of a modern world.

Biochip Center Approved

A national engineering research center for biochips (Beijing) has passed an approval check on September 29, 2007. Based at Tsinghua University, and jointly sponsored by Huazhong S&T University, the Chinese Academy of Medical Sciences, and the Chinese Academy of Military Medical Sciences, the new center started its construction in October 2000, with a budget of RMB 390 million. The center is designed to produce proprietary biochips, and associated processing and test techniques, and to work on commercial applications of such techniques.

In last couple of years, the Center has filed 102 patent applications, with 60 grants. It has established a range of technical service platforms for genes, proteins, cells, and tissues, and rolled out some 50 proprietary products of international competitiveness for biochips, supporting instruments and equipment, test agents and consumables, and software and database.

China 's Standard Anthropomorphic Manikin

China 's first proprietary anthropomorphic manikin successfully completed on Septembe 25, 2007 a high speed rocket sled test. A study team, led by LIU Songyang, a senior engineer with Airforce Institute of Aeronautic Medicine, has integrated a range of technologies, including anthropometry, mechanical engineering, dynamics, software design, and aeronautic medicine, to work out the sophisticated manikin. In collaboration with a dozen of research institutes and enterprises, the team has landed breakthroughs in needed key technologies, including anthropometry, basic structure, and signal processing. It takes five-year painstaking efforts for Chinese researchers to roll out the high performance anthropomorphic manikin.

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