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SPECIAL ISSUES

Funds for S&T Finding Spin-off

To implement the national outlines for medium and long term scientific and technological development planning (2006-2020), spur up S&T finding transfer and application, and foster strategic emerging industries, the Chinese Ministry of Finance and Ministry of

Science and Technology jointly announced on July 4, 2011 to establish a national steering fund for S&T finding spin-off, along with an interim by-law for the management of the fund.

Created by the state treasury, the Fund is designed to work under the principles of steering, indirect, non-profit, and market-oriented. It will guide and mobilize banking sectors, private capital, and local governments to enhance their input in supporting S&T finding spin-offs, through venture capital sub-funds, credit risk compensation, and performance incentives, allowing more S&T findings to be transferred and put into commercial applications through innovative support mechanisms and modalities.

Meanwhile, the two government agencies will establish a national S&T findings database, and an authoritative S&T findings information management and service platform for venture capital firms, banks, and investors that are part of spin-off efforts.

Digital Geo-Spatial China in 2015

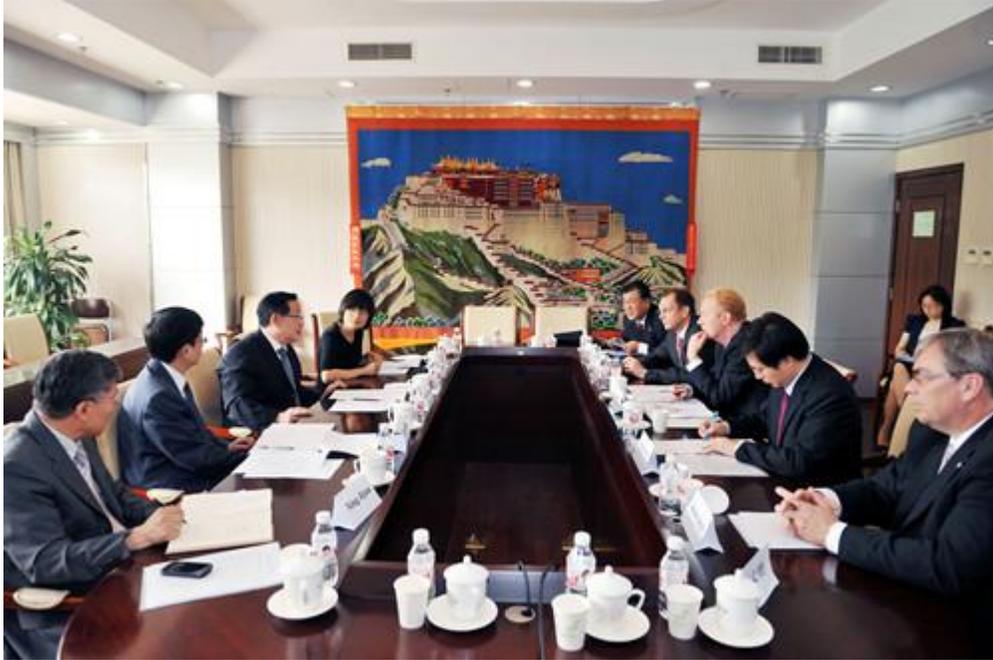
Not long ago, the Chinese National Administration of Surveying, Mapping and Geoinformation publicized a master outline for surveying, mapping, and geoinformation activities during the 12th Five-year period (2011-2015). According to the Outline, China will complete the construction of a digital geospatial China and associated information and mapping system in 2015.

WANG Chunfeng, Deputy Administrator of National Surveying, Mapping, and Geoinformation, said to achieve the goals, China will stage and implement a range of major GIS projects, covering geographic condition monitoring, modern mapping and surveying benchmark infrastructures, border mapping support, islands (reef) mapping (phase-II), global and polar mapping, geoinformation service network, modern mapping technology and equipment, emergency mapping support capacity building, marine surveying and mapping among others.

WANG added that during the 12th five-year period, China will promote the development of digital cities nationwide, striving to complete the construction of 333 digital cities at prefecture or county levels. The cities that have been shaped up as digital cities shall gear up for a more timely data update, making themselves part of the provincial and national networks. In addition, efforts shall be made to promote applications and diffusions, developing operation oriented applications, and allowing digital cities to play a bigger in the government decision making process and people's life.

INTERNATIONAL COOPERATION

WAN Met with German Guests



WAN Gang, Chinese Minister of Science and Technology, met with the visiting Bayer Chairman Marijn Dekkers on June 20, 2011. WAN briefed the other side of the new

materials and new medicines component of China's S&T planning for the 12th five-year period. WAN said he is delighted to see Bayer station its global healthcare and material science centers in Beijing and Shanghai respectively, and move some operational Headquarters to China. He supports Bayer's collaborations with Chinese universities and research institutions, encouraging the training of young scientists. Dr. Dekkers introduced Bayer's development strategies in recent years, with a focus on the development of Chinese market, and expressed Bayer's determination of strengthening its R&D activities in China. Both sides expressed the wishes to further enhance the collaborations in the area of biopharmaceuticals and material science.

RESEARCH AND DEVELOPMENT

Pro-UK Injection Approved

The State Food and Drug Administration has recently approved the market entry application of Recombinant Human Prourokinase for Injection (pro-UK), a new drug jointly developed by Shanghai Tasly Pharmaceutical, part of Tianjin Tasly Group, and the Chinese Military Academy of Medical Sciences Institute of Biotechnology to treat acute ST-segment elevation myocardial infarction. It took several decades for Chinese scientists to have rolled out the proprietary new drug with proven safety, efficacy and quality. The new drug is also the only class-I therapeutic biological product approved by China in recent years.

Poplar Genome Mapped

Beijing Forestry University researchers have completed the framework mapping of poplar genome using the state-of-the-art whole-genome shotgun sequencing and stitching strategies, based on some hundred-year old tree samples. According to the scientists who are part of the sequencing efforts, the poplar genome is made up of some 600 million base pairs, with an averaged length of 39.7Kb for the overlapping group, up to the criteria for being a framework genome chart. The framework genome chart completed has registered a euchromatin coverage of 90% or above, a gene coverage for more than 95%, and a single-base error rate under one among 10,000.

It is reported that Chinese researchers will build a physical map and high-density linkage map based on the framework chart, in an attempt to work out a refined genome map through the combination of sequence map, physical map, and linkage map, ensuring the accuracy of genome sequence assembly and annotation.

Mobile Contact Supports Instant Messaging

Beijing University of Posts and Telecommunications State Key Laboratory for Networking and Switching Technology has recently rolled out a novel contact program for mobile phone, making the integration of phoning, instant message, social networking, and personal information management possible.

The innovative contact program is designed to accommodate the all-in-one functions of sending text messages, making phone calls, instant chatting, and social networking. For example, the contact program automatically updates contact information in line with online activities, keeping friends informed of the possible changes of users' phone number. What you need do is maintain you own information, and the system will help you update and maintain your friends' information in an automatic manner.

Meanwhile, the seamless integration of communication, instant messaging, social networking, and personal information management allows users to enter different applications and websites through an integrated platform. In addition, the phone holder's personal information is designed to be separate from the physical phone, which means once the mobile phone gets lost, the personal information in the phone would be destroyed automatically.

Forest-Steppe Pollen Morphology Study

Major pollen morphology of forest steppe in Inner Mongolia, a key Natural Science Foundation project undertaken by Prof. WAN Tao and coworkers at Inner Mongolia Agricultural University, has recently landed breakthrough findings.

WAN and coworkers have collected more than 200 plant specimens on a journey covering 40,000km, started from April 2008. Researchers studied the pollen morphology of 40 selected species, including *Artemisia*, *Picea*, and wild ornamental plants, in an in-depth and systematic manner, which is rare both at home and abroad. In the course of the study, researchers developed a specimen collecting method that secures the direct docking between live pollen sampling and electronic microscope stage, avoiding pollen contamination commonly seen in traditional handlings.

The findings stemmed from the study provide palynological evidences for studying forest-steppe plants and associated reproductive biology, ecology and biodiversity, and for plant resources conservation and associated rational development in Inner Mongolia.

Manned Submarine Probe Launched



“Jiaolong”, a manned submarine probe to be launched from a boat.

Xiangyanghong-09, a mother ship designed to test submarine probes, set sail from Jiangyin on July 1, 2011. During the 47-day journey over the eastern Pacific Ocean, the ship released Jiaolong, a manned submarine probe, to investigate polymetallic nodules at a depth of 5000m in the northeast Pacific contract area. The submarine capsule, carrying one submariner and two scientists, will investigate the marine resources and work on designed missions at a depth of 5000m. With a 5000m dive capability, China will be able to stretch its deepwater probe activity to more than 70% of the global ocean floor.

According to a technical improvement and sea trial plan, the submarine probe will be working on a range of missions, including seafloor photography, video shooting, seabed topography measurement, marine environmental parameters collection, fixed site sampling among others. Researchers will test the designed functions and performance of the probe at a depth of 5,000m, collecting more data for future improvement and applications.

China National Space Center

A CAS National Space Science Center was inaugurated on July 7, 2011 in Beijing. The Center will work on a range of missions, including national space development planning, satellite project pre-study and assessment, satellite project management, international exchanges and cooperation, in-orbit satellite operation management and data management among others. In addition, the Center will assist scientists to analyze satellite data, evaluate the scientific output of space activities, and developing innovative applications in an organized manner.

Desert Ecosystem Service Monitored

It was reported from the State Forestry Administration that China has established a system to monitor and evaluate the service quality of desert ecosystems. The development indicates that China's desert ecosystem service has entered a new stage of being monitored and evaluated.

A range of institutions, including Chinese Academy of Forestry, Chinese Academy of Sciences, and Beijing Forestry University, started to study the methodology of monitoring and evaluating desert ecosystem services from 2010. Up to date, Chinese scientists have completed the design of major monitoring components, including sand-fixing, biodiversity conservation, cultural and recreational development, and associated information and data collection.

The project not only works on the assessment of desert ecosystems' carbon sequestration functions and potentials, but also works on biogeochemical cycles, hydrological regulation of desert areas, sand-fixing, and biodiversity conservation. Experts who are part of the project said the study will provide scientific ground and data to developing ecological compensation mechanisms for the arid areas, economic development planning, and natural resource management. The project is expected to be completed by the end of 2012.

Nature Reserve Expedition in Xinjiang

An expedition team, made up of the scientists from CAS Northwest Institute of Plateau Biology and Xinjiang Academy of Environmental Sciences, launched a second scientific expedition to investigate the Mountain Altun Nature Reserve in June, and harvested some encouraging findings.

- 1) The dwindled Tibetan antelope population has been recovering in number, with an

expanded area of distribution. In most part of the Reserve, one can spot a significant number of male Tibetan antelope, enjoying an estimate that is larger than the previous years; 2) in the east part of the Reserve, wild Tibetan ass and yak population has registered a growth. People even can track down these animals in the west part of the Reserve where no such animals had been spotted for many years, showing a distribution area that is larger than in the previous years; 3) scientists spotted the presence of three-toed jerboa in the Chang Tang highland on the northern bank of Aqike Lake in the central Reserve. Before this, three-toed jerboa samples were only collected outside the Reserve; 4) scientists proved with evidence that there are fishes in the east part of the Reserve; and 5) adult badger samples have been collected, which helped scientists to establish the official distribution of fish species in the Reserve.

Monitoring Radioactivity in Western Pacific

Nanfeng-I, a boat send by the State Oceanic Administration to monitor radioactivity in the western Pacific Ocean after the Fukushima nuclear accident, arrived at Xiamen on July 4, 2011. The mission has produced first-hand data to show the possible impacts of the nuclear accident on the western Pacific Ocean. Researchers are currently working on the samples collected from the trip, assessing the possible impacts of the nuclear accident on China's territorial waters and adjacent offshore areas.

According to a briefing, Chinese researchers have collected radioactivity data from an open sea area of 252,000 square kilometers over the 5,000 nautical mile journey that lasted for 18 days. Researchers completed the data collection and site monitoring mission 12 days ahead of the schedule.

Launched on June 16, 2011 from Xiamen, the monitoring and data collection mission was initiated by the State Oceanic Administration, and implemented by No. 3 Institute of Oceanography, South China Sea Bureau, East China Sea Bureau, and National Marine Environment Forecasting Center under the State Oceanic Administration.

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