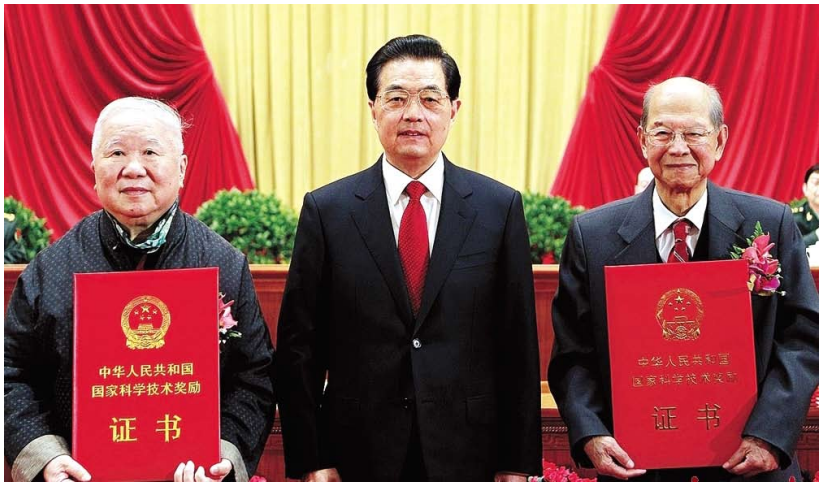
China honors outstanding scientists and research achievements for 2011



On February 14, 2012, an annual ceremony was convened at the Great Hall of the People to honor China's distinguished scientists and outstanding science and technology achievements. Physicist XIE Jialin (P.136) and architect WU Liangyong (P.140), both members of CAS, received the State Supreme S&T Award from Chinese President HU Jintao. Among award-winning projects which were chaired by CAS researchers, 13 won the State Natural Sciences Award (P.146), 6 the State Technology Invention Award and 12 the S&T Advancement Award. The International S&T Cooperation Award of China was conferred on eight foreign experts, including three laureates of the CAS 2010 International Cooperation Award Aikichi Iwamoto, Stephen Porter and G. Q. Max Lu (P.126, 2011 *BCAS*), as well as Andreas Dress, who worked as the first director of the CAS-MPG Partner Institute for Computational Biology in Shanghai from 2005 to 2009.

CAS convenes Annual Conference 2012

The Chinese Academy of Sciences convened its Annual Work Conference in Beijing from January 16 to 18, 2012. At the opening session, CAS President BAI Chunli delivered a work report to more than 400 officials from CAS institutions across the nation, looking back on the Academy's major achievements in 2011 and blueprinting its strategic development for the year ahead. He urged CAS institutes to further concentrate their research efforts on well-defined and distinctive scientific goals to nurture major innovations, leading scientists and scientific ideas and push forward the Academy's "Innovation 2020" endeavor.

During the three-day conference, CAS conferred this year's Outstanding S&T Achievement Prize on ten recipients including Prof. ZHANG Runzhi and nine research groups (P.154). It also presented the 2011 Award for International Scientific Cooperation to three foreign experts — Danish nano researcher Flemming Besenbacher (P.170), American glaciologist Lonnie Thompson (P.258, 2011 *BCAS* and P.144 this issue) and Japanese accelerator scientist Shin-ichi Kurokawa (P.168) — all of whom have been strongly involved in decades-long substantial collaborations with CAS institutes.

China to spend more on science and technology amid economic slowdown

Though China has cut its GDP growth target to 7.5 percent for 2012, the lowest in over 20 years, the government is determined to go on increasing its spending on science and technology, especially the basic research sector, according to Premier WEN Jiabao's government report adopted by the 11th National People's Congress in March 2012. A draft budget shows that in the coming year China will earmark a total of 228.54 billion yuan (36 billion US dollars) to boost the development of science and technology, among which 32.45 billion yuan (5.14 billion US dollars) is to be poured into basic science, marking a rise by 12.4 and 26 percent respectively from last year's budget.

CAS expert receives Tribology Gold Medal

Prof. XUE Qunji, a senior expert in tribology from the CAS Lanzhou Institute of Chemical Physics (LICP) and member of the Chinese Academy of Engineering, received the Tribology Gold Medal for 2011 on February 27, 2012 in Beijing. As one of the world's most outstanding and influential tribologists in the last forty years, Prof. Xue has been devoted to the research and development of anti-wear, low-cost and energy-efficient lubricating materials, applying over 20 novel types to the space industry and major engineering projects in China. He is also the founding director of the State Key Laboratory of Solid Lubrication at LICP in 1987. Prof. Xue is the first scientist from China to be awarded the Gold Medal, the highest honor in the field.

Young CAS biologist gets five-year grant from Howard Hughes Medical Institute

Dr. TANG Chun, an outstanding young biologist from the CAS Wuhan Institute of Physics and Mathematics (WIPM) was announced in January 2012 to have won the first International Early Career Award from Howard Hughes Medical Institute with a five-year grant totaling up to 650,000 US dollars. Dr. Tang is an expert in using novel nuclear magnetic resonance methods to study the behavior and function of proteins, based on a technique called paramagnetic relaxation enhancement he has pioneered. He received his PhD from the University of Maryland, Baltimore County in 2003 and worked at the US National Institute of Health and the University of Missouri before joining WIPM in 2009. He is one of the seven scientists from the Chinese mainland to win the award.

CAS gears up to lure more top-notch foreign scientists

At a special meeting held by CAS and the State Administration of Foreign Experts Affairs (SAFEA) in February 2012, CAS officials said that the Academy is ready to attract more high-caliber foreign scientists to work for it through the Thousand Foreign Experts Program, a government recruitment plan lately launched to lure up to about 1,000 top-level non-Chinese foreign experts to come and work in China.

The Program had just finished a second round of application by February. According to SAFEA, applicants of the Program shall be prestigious professors, senior experts or experienced entrepreneurs, non-Chinese, under the age of 65, and prepared to work in China for not less than nine months a year for three consecutive years or more. Every successful applicant will receive a cash allowance of one million yuan (about 158, 000 US dollars) from the central government and a special fund for medical treatment and social security

from SAFEA, as well as an extra three to five million yuan research subsidy.

The Program is under the framework of the Thousand Talents Program, which was kicked off in 2008 to attract around 2,000 outstanding overseas Chinese experts to return home and work for domestic scientific organizations and enterprises.

USTC helps news agency establish a new transmission network based on quantum communication

On February 21, 2012, a new global network using quantum communication technology to transmit financial information was launched at the Xinhua News Agency in Beijing. The network, jointly developed by scientists from the University of Science and Technology of China (USTC) and Xinhua workers, supports confidential audio-visual communication, real-time text transfers and the rapid transmission of data files with a bandwidth of hundreds of megabits, and can guarantee the absolute security and high efficiency of data transmission compared with conventional technologies such as wireless networking. As the world's first realization of quantum communication in financial information industry, it plays a pioneer role in applying quantum technologies to the economic development and social life in China. Chinese State Councilor LIU Yandong, Xinhua News Agency President LI Congjun and CAS President BAI Chunli were present at the inauguration ceremony. Prof. Bai said that CAS will continue to put quantum communication technology high on its development agenda and strive to make major breakthroughs in the next five years.

CAS, Canada signs MoU on Sustainable Development of Natural Resources

On February 8, 2012, CAS President BAI Chunli and Canadian Minister of Natural Resources Joe Oliver signed a five-year Memorandum of Understanding (MoU) on Sustainable Development of Natural Resources in Beijing as an outcome of an official visit by Canadian Premier Stephen Harper to China in the first half of the month. According to the MOU, CAS and Natural Resources Canada will set up a long-term mechanism to promote bilateral collaboration in areas such as clean energy, earth sciences and mineral resources, by facilitating individual research projects, personnel exchanges as well as the exchange of scientific information and technology.

Young scientific stars from CAS receive national award

Fifteen brilliant young researchers from CAS institutes received the 12th National Award for Youth in Science and Technology at a special ceremony held in Beijing on December 15, 2011.

They include WANG Shu with the Institute of Chemistry, TIAN Ye and YU Le'an with the Academy of Mathematics and Systems Science, LI Jia with the Shanghai Institute of Materia Medica, YANG Chao with the Institute of Process Engineering, WANG Yuming with the University of Science and Technology of China, SONG Yuntao with the Hefei Institutes of Physical Sciences, ZHAO Degang with the Institute of Semiconductors, YUAN Yunbin with the Institute of Geodesy and Geophysics, CAO Junji with the Institute of Earth Environment, HUI Lijian with the Shanghai Institutes for Biological Sciences, CHENG Xueqi with the Institute of Computing Technology, LAI Ren with the Kunming Institute of Zoology, FAN Chunhai with the Shanghai Institute of Applied Physics and DAI Xi with the Institute of Physics.

The Award was established in 1987 and issued every other year to honor China's most outstanding young scientists for their research achievements, diligence and leadership. By far, many of the Award's recipients have grown into leading scientists and nearly 70 of them have been elected into CAS or CAE, including CAS President BAI Chunli, who is among the first winners of the Award. This year's award was conferred on a total of 100 young scientists from across the nation.

CAS center honored for contributing to China's manned space program

The Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences was honored for its outstanding contributions to China's manned spaceflight program at a special ceremony held in Beijing on December 16, 2011. The Center, established in 2011 to replace its predecessor, the General Establishment of Space Science and Application of CAS, has successfully completed the test missions of the Shenzhou spacecraft series and the Tiangong-1 target spacecraft. It has also developed nearly 300 sets of payloads by far to serve earth observation, earth/space environment monitoring, space astronomy and other scientific research for China. The Center's major tasks involve overall spacecraft structure, orbital attitude dynamics and control, mechanical structure, electronics, data transmission, software and system simulation.

CAS Institute of Information Engineering sees a good start

The Institute of Information Engineering (IIE), a new institute under CAS approved for establishment in 2011, has made a good start in its development in a recent year. By far, it has set up several state-level innovation platforms, including the State Key Laboratory of Information Security, the State Engineering Laboratory of Information Content Security Technology, the National Engineering Research Center of Information Security, and the CAS Data Assurance and Communication Security Center. It has also scored a number of research achievements with support from the central government and CAS. IIE researchers strive to provide core technologies and system solutions to answer the nation's strategic demands in information technology.

A new laboratory for solid waste recycling technologies

According to a cooperation agreement between the CAS Research Center for Eco-Environmental Sciences (RCEES) and the Ordos municipal government, a new institute is now being built in Ordos City, north China's Inner Mongolia to address the key engineering technologies for solid waste recycling. With the existing research and application platform of Chuanxiang Waste Disposal Co., Ltd. in Ordos City and the technological support and expertise from RCEES, the new institute aims at building itself into a leading R&D center and industrial base for the recycling and disposal of solid wastes in China and the world.

Chinese TWAS Members meet in Beijing

The Fifth Meeting of Chinese Members of the Academy of Sciences for the Developing World (TWAS) was held in Beijing on April 16. Chaired by CAS Vice President and TWAS Member ZHANG Yaping, the meeting was attended by nearly 60 people from across the country.

CAS President and TWAS Vice President BAI Chunli delivered a work report at the meeting. He pointed out that developing nations are facing both challenges and opportunities in the process of globalization. Cooperation and exchanges between the Chinese S&T community and TWAS are conducive to friendly relations and diversified and win-win collaboration in the developing world.

He called on Chinese TWAS Members to play an active role in developing a strong partnership with S&T workers of other developing countries, including encouraging and supporting application for various TWAS programs, training young scientists, extending cooperation with international organizations, and making joint efforts to solve economic and social problems facing the developing world.

At the meeting, participants reviewed the course of cooperation between China and TWAS over the past three decades. They agreed that Chinese S&T community should take the opportunity of the 23rd General Conference of TWAS to be held in September in Tianjin, so as to facilitate intensive collaboration between China and other developing countries for common development.

Senior Chinese chemist wins 2011 Anselme Payen Award

Prof. ZHANG Lina, a distinguished chemist with Wuhan University and newly-elected Member of CAS, became laureate of the Anselme Payen Award for 2011 at the ACS National Meeting held in San Diego on March 27, 2012. For decades, Prof. Zhang has been working diligently on the fundamental research and applications of renewable natural polymers including cellulose, chitin, soy protein, starch, and polysaccharides, and discovered a new low-cost, non-toxic and environmentally-friendly cellulose solvent. She has founded and led the Natural Polymer and Polymer Physics Laboratory at Wuhan University since 1993, and was elected to CAS in 2011. Prof. Zhang is the first Chinese scientist to win the Anselme Payen Award, which was established in 1962 to honor outstanding professional contributions to the science and chemical technology of cellulose and its allied products.

CAS to deepen scientific cooperation with enterprises and localities

On April 10, 2012, an overall strategic partnership agreement between CAS and China Petrochemical Corporation (Sinopec Group) was signed by CAS President BAI Chunli and Chairman of Sinopec Group FU Chengyu, launching collaborations in six key areas including synchrotron radiation technologies, thorium-based molten salt reactor system, and the preparation of basic chemicals via coal-based syngas and high temperature electrolysis.

About a month ago, in early March, President Bai carried out a series of meetings with provincial governors on deepening scientific cooperation and using the Academy's technologies and resources to boost regional economic development. During his talks with high officials from Jilin, Jiangxi, Fujian, Guizhou, Qinghai, Gansu, Hebei, Henan, Guangdong and Heilongjiang provinces, and Tianjin and the Xinjiang Production and Construction Corps, President Bai reiterated the significance of cooperation between CAS and localities, and signed cooperation agreements with them to offer extensive technological and personnel supports to help these regions develop strategically important industries, including new energy sources and new materials, biomedicine, new information technology, high-end equipment manufacturing, as well as the protection and utilization of local biological resources.

In his meetings with the entrepreneurs and government officials, President Bai said that "Innovation 2020", a CAS initiative proved by the State Council, aims at serving national major strategic demands, local socioeconomic growth and regional innovation system development.

According to the agreements, CAS is going to jointly establish provincial academies with Jiangxi, Gansu, Hebei and Guizhou provinces. Previously, CAS has decided to set up a national union of science academies and a national alliance of field observation stations by joining hands with local academies.