

Nation honors outstanding scientists



Chinese President Hu Jintao poses with Wang Zhenyi (left) and Shi Changxu yesterday in the Great Hall of the People in Beijing after Wang and Shi received the nation's top science award. — Xinhua

TWO Chinese scientists, materials expert Shi Changxu and hematologist Wang Zhenyi, won China's top science award yesterday for their outstanding contributions to scientific and technological innovation.

The pair, both from the Chinese Academy of Engineering, each received 5 million yuan (US\$757,530) and were presented with certificates by President Hu Jintao at the Great Hall of the People in Beijing.

China has given the annual State Top Scientific and Technological Award to top scientists and researchers since 2000.

To sharpen its international competitiveness, China needed a large number of outstanding scientists and to raise its science and technology level, Premier Wen Jiabao said at the ceremony.

In the 12th five-year plan period (2011-2015), the country's top priority

would be to transform its development pattern, which needed support from science sector, Wen said.

The premier urged closer cooperation between scientists and companies so that more scientific achievements could be applied in economic development and daily life.

"We encourage more companies to engage in research and development and more scientists, research institutes and colleges to work with the private sector," he said.

Wen pledged to better allocate resources in the science sector and to protect the intellectual property rights of scientists.

China would also support innovation and create a better environment for research and for young scientists to develop their careers, he said.

Shi Changxu, 90, graduated from National Northwest China Institute of

Technology in 1945 and acquired a doctorate at a university in the United States before returning to China in 1955.

He was honored for his research on superalloy and new alloy steel, which has been widely used to produce turbine blades for Chinese fighter aircraft.

"Scientists should devote our talents to the development of our country, society and the welfare of our people," Shi said at the ceremony.

"We should work harder to build China into a country with great creativity and a well-off society."

An original anti-counterfeit device used in banknote printing won the State Technological Invention Award first prize.

Three scientists from Germany, one from the United States and one from France won the International Cooperation Award in Science and Technology.

(Xinhua)

Expert uses a poison as therapy

Cai Wenjun

SHANGHAI took 57 prizes at this year's State Scientific and Technological Awards with 55 of them projects initiated or supported by local experts.

Top award winner Wang Zhenyi, 86, who still works as a doctor at the city's Ruijin Hospital, was honored for research that has greatly improved the survival chances

of people with acute promyelocytic leukemia (APL).

His therapy, which combines all-trans retinoic acid — a chemotherapy drug — and arsenic has maintained a 95 percent survival rate among patients, making APL the first treatable adult leukemia.

Arsenic is famous as a poison but has long been an ingredient in traditional

Chinese medicine.

In APL, there is a drop in the production of normal red blood cells and platelets. Until the 1970s, APL was 100 percent fatal and there was no effective treatment.

Experts at the Shanghai Institute of Hematology tested Wang's treatment and found that the arsenic was targeting and killing specific proteins that kept the cancer alive.

The discovery was published in world-leading journal Science last year.

Wang, a member of the Chinese Academy of Engineering, taught the current Health Minister Chen Zhu and his wife Chen Saijuan, both hematologists when they were undergraduates.

Eighteen scientists have been recipients of the top honor since The State Scientific and Technological Awards were launched in 2000 to encourage innovation.



Wang Zhenyi checks a patient in Ruijin Hospital. — Xinhua

Shanghai projects win prizes

Christine Cai

A TOTAL of 55 projects headed by or involving local experts won State Scientific and Technological Awards yesterday.

Local projects won six prizes in natural sciences, four in technological inventions and 45 in science and technology progress.

Twelve projects were in the field of health care.

"In the past five years, more than 50 city health care projects, mostly involving prevention and control of common diseases and early detection and intervention on cancer, have been honored in these awards reflecting Shanghai's capability in diagnosis and treatment on major diseases," said Yin Bangqi of the Shanghai Science and Technology Commission.

Solar power all the year round

A system developed by Shanghai Jiao Tong University uses solar energy all year round to keep us cool in summer, warm in winter and provide ventilation in spring and autumn. The system uses water heated by building solar collectors on buildings to drive

refrigeration for cooling. Since solar energy is not constant in different seasons and weather conditions, the system can work with regular air-conditioners to save energy and improve efficiency. The system was used at World Expo pavilions.

Softly, softly approach to jute

Jute is the world's second most used fiber after cotton, however it is usually made into low-end products such as sacks due to the lack of technology to refine it.

Biological techniques developed by Shanghai's

Donghua University are able to make tough jute into soft and gentle fibers for high quality fabric to make a wide range of textile products and even clothes, while saving limited cotton resources.

Keeping hairy crabs fit and well

Experts from Shanghai Ocean University have solved key problems inherent in the breeding, disease prevention and treatment of the famous Shanghai hairy crab, or Chinese mitten crab, and developed nutritious feed to enhance the

crabs' reproductive quality and baby crab health.

Experts also worked out ways to control common diseases through ecological technologies and tonics.

The technology has been promoted in more than 10 provinces to date.

Just what the babies need

More than a million newborn babies are hospitalized soon after delivery for various diseases in the nation every year, and nutritional support is a must for their survival and recovery.

Headed by Dr Cai Wei, Shanghai's Xinhua Hospital's team was the first in

the world to work out a suitable volume of energy for newborn babies, 30 percent lower than the standard.

The team also worked out the nation's first clinical guidance on newborn nutritional support and it has been adopted throughout the country.

TCM team finds something new

A team from Shanghai University of Traditional Chinese Medicine analyzed the chemical and pharmacological features of Chinese herbs and set up a database with 8,000 TCM abstracts, 6,000 TCM simplex components, 100 TCM effective parts

and 200 compound TCM prescriptions.

The team has developed nine new TCM medicines by modern technologies and received two international patents. Two new medicines have been transferred to companies with 140 million yuan in profit.

An ecological approach to oil

Microbial enhanced oil recovery is a technology consisting of manipulating the function and structure of minute life forms in oil reservoirs to improve the recovery of oil trapped in porous media.

Currently, only 35

percent of oil can be extracted, leaving two-thirds behind.

East China University of Science and Technology's oil extraction technology is environmentally friendly improving recovery of the residue with less energy.

International Award



Klaus Topfer, an honorary professor at Shanghai's Tongji University, took the international scientific cooperation award for his advice on environmental protection during the 2008 Beijing Olympics and the 2010 World Expo in Shanghai.

Topfer is a former United Nations deputy secretary-general and former executive director of the UN Environmental Programme.