

Evaluation of Projects for Basic Research of Scientific Instruments in 2008 Completed

In 2008, NSFC received 139 proposals for the special fund of Basic of Scientific Instruments, out of which 35 were selected into the second round competition through peer review by correspondence. The panel meeting was held in Beijing from June 26 to 27, 2008 with the attendance of 27 experts from 21 institutions. NSFC Vice President, Prof. Sun Jianguang attended the meeting and delivered a speech.

After candidates' presentations, Q&A and closed discussion sessions, as well as voting process, the panelists made a recommendation of 35 projects for funding, which will be submitted to NSFC Council for approval in a couple of months.

NSFC Former President Tang Ao-qing Passed Away



NSFC Former President Tang Ao-qing, a distinguished chemist and senior member of the Chinese Academy of Sciences, passed away at 11:15 on July 15, 2008, aged 93.

Prof. Tang was born in Yixing, Jiangsu Province in November 1915. He graduated from the National Southwest Associated University in 1940 and taught in the university thereafter. He went to Columbia University in the United States for study in June 1946 and obtained Ph.D. degree in December 1949. After return to China in January 1950, he successively worked as professor in Peking University and Jilin University. He assumed the position of Vice President of Jilin University from 1956 and the President of the University from 1978 to 1986. He was the inaugural President of NSFC from 1986 to 1990. Prof. Tang also acted as Vice President of the China Association of Science and Technology, member of the Academic Degrees Committee of the State Council, and Deputy Director of the National Natural Science Award Council. He was elected Member of the Chinese Academy of Sciences in 1955, and member of the International Academy of Quantum Molecular Science in 1981. He was currently Honorary President of NSFC and Honorary President of Jilin University.

(The editorial)

Professor Tang Aoqing and NSFC



Professor Tang Aoqing was appointed by the State Council of China as the first President of National Natural Science Foundation of China in February 1986. This photo was taken in front of the Chinese Academy of Sciences, after the welcoming ceremony hosted by leaders of the Chinese Academy of Science.



Professor Tang Aoqing chaired the first General Assembly of the National Natural Science Foundation of China on December 25, 1986.



In May 1996, Professor Tang Aoqing met with Shiing-shen Chern, famous mathematician, who came to Beijing to attend the meeting celebrating the tenth anniversary of NSFC.



As the president of NSFC, Professor Tang Ao-qing attached great importance on developing international cooperation. In March 1988, Professor Tang signed the cooperation agreement between NSFC and DFG.



In April 1988, Professor Tang signed the co-operation agreements Between NSFC and Austrian Science Foundation, and NSFC and Austrian Industrial Research Promotion Fund Respectively.

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Carbon Nanotube Film-Based Speaker Developed in Tsinghua University

A research group from Tsinghua University led by Prof. Fan Shoushan, Member of the Chinese Academy of Sciences, and Jiang Kaili, associate professor of Physics, found that carbon nanotube thin film could act as a speaker once fed by audio frequency electric currents. These carbon nanotube loudspeakers are only tens of a nanometer thick, transparent, flexible and stretchable, which can be further tailored into any shape and size. These results have been published in the journal Nano Letter.

Further studies on the discovery indicated that this phenomenon could be attributed to a thermo-acoustic effect. The ultra small heat capacity per unit area of carbon nanotube thin films leads to a wide frequency response range (from 100Hz to 100 kHz) and a high sound pressure level, according to the theoretical analysis. Based on this finding, the research group made practical carbon nanotube thin film speaker units, which possess the merits of nanometer thickness, transparent, flexible, stretchable and magnet-free. Such a single element thin film speaker can be tailored into any shape and size, freestanding on any insulating surfaces, which could bring new ideas to the traditional electro-acoustics designing and might lead approaches to the speaker manufacturing.

The research was funded by the National Basic Research Program of China (973), National Science Foundation of China, and Foxconn Technology Group. Patents was filed this April and the paper was published on web as ASAP articles of Nano Letter on Oct 29, 2008.

John Rogers, a material scientist from the University of Illinois at Urbana-Champaign, says: "It caps off a remarkable year in CNT research, in which people have been able to demonstrate realistic devices -- speakers, transparent conductors, digital circuits, and transistor radios -- formed in manufacturable ways and with properties that can be benchmarked in a meaningful way against existing technologies."

Dinosaur Footprint Fossils Discovered in Xinjiang

Recently, a Chinese-German science fieldwork investigation team, composed of staff from the Sino-German Paleontology and Geography Joint Lab and the Xinjiang Geological Work Station, announced that they discovered a batch of dinosaur footprint fossils in the desert 20 kilometers to the east of Shanshan County in the Turpan Basin, Xinjiang Uyghur Autonomous Region. These fossils spread around an area of 100 square meters and scientists believed that these footprints were left behind by carnivore dinosaurs. This major discovery has been published in *Global Geology*, an English journal published by the North-East Asia Geology Center.

The Sino-German Paleontology and Geology Joint Lab was established by the Sino-German Center for Research Promotion in Oct. 2005, which is led by Jilin University and Tübingen University in Germany and participated by 13 research institutes from China and Germany. This is the first joint research lab specialized in paleontology and geology in China.

It is learned that these fossils were discovered accidentally during a joint fieldwork in October 2007 by Chinese and German scientists. The footprints were found in the mid Jurassic stratum dated 165 million years ago. Sandstone from which the footprints were discovered was 3 meters high and over 30 meters long. Most of the footprints are in the three-toe shape, and each footprint has 3 big and protruding toes with sharp claws.

About 150 footprints were discovered, irregularly spreading on a reddish rock surface of an abandoned sloping. With uneven distribution, all footprints were clearly recognizable on a 100-meter long and 3-meter high rock. Part of the rock already fell off where the footprints were most densely concentrated.

Prof. Dong Zhiming, member of the Joint Lab and famous dinosaur expert, and German dinosaur expert Dr. O. Wings introduced that there is a rich stock of dinosaur fossil resources in China's Xinjiang Uyghur Autonomous Region, but most of the fossils discovered in the past are dinosaur bones. This is the first time that footprint fossils were discovered in this region. All the fossils found were projecting ones left on soil during dinosaurs' activities. Sandstone brought by river and lake water later aggradated on these steps. During the geological process afterwards, the soft soil disappeared or weathered while the upper hard sandstone maintained and became fossils.

Chinese Director of the Joint Lab and Paleontologist Sun Ge said that the dinosaur footprints from Shanshan County filled in the gap of dinosaur footprint research in Xinjiang Uyghur Autonomous Region and was of major significance to the in-depth formation study of the biological groups represented by dinosaurs 160 million years ago in North-West China, as well as to the research on ancient geography and ancient climate and environment.

New Method for Early Cancer Diagnosis

The NSFC funded Key Program project “A real-time analysis of the early diagnosis of cancer markers”, undertaken by Changchun Institute of Applied Chemistry, Chinese Academy of Sciences (CAS), recently received recognition from an expert team for assessment. Experts pointed out that the research was of great value for the fast ascertain of cancer markers and the early warning and diagnosis. The research team was headed by Academician Wang Erkang, CAS and Prof. Kong Jilie, Fudan University.

Starting from January, 2004, the group has put their utmost to the research and attained cheerful results. By means of capillary electrophoresis (CE) with electro-chemiluminescence (ECL) detection, surface plasma resonance (SPR), laser induced fluorescence (LIF), spectrum technology, protein chips, gene chip sensors, etc., a real-time, sensitive and specific online detection of some cancer markers was established.

After their successful commercialization of the capillary electrophoresis electrochemical analyzer as an independent intellectual property, the group further developed new ECL technologies and ECL probes, working out a new method for simple, sensitive detection of the activity of prolidase (PLD) in plasma and serum, marker of some cancers such as liver cancer and mammary cancer. The combination of various fast, high sensitive and selective analytical methods was realized in the newly developed analysis and micro total analysis system, owing to which microchips for detecting various proteins and genes were brought into being. The application of these new methods to the detection of clinical cases contributed to the construction of clinical substance and analysis parameter databases. The dynamics of the influence of drugs on the activity of PLD in red blood cells (RBC) was investigated and, in accord, functions of different drugs in increasing or decreasing the risk of cancer were revealed. A new approach was developed for the detection of the activity of aspartate aminotransferase and alanine aminotransferase, and the toxic impact of ethanol on hepatoma cells was also studied. By the adoption of the electrochemical method together with a variety of spectrum technologies, detailed study on the interaction between the anti-cancer drugs Mitoxantrone, Calf Thymus DNA, and Cytochrome C was conducted, providing a theoretical basis for oriented synthesis of drugs.

With regard to the protein chip or gene chip sensor, the researchers also developed immuno-chips in crossed finger shape and silicon chips of integrated three-electrode to detect serum markers of liver fibrosis. Based on the study of selective reversible assembly of antibody protein characteristic of electrochemical surface switch, the micro fluidic chip with switching functions was developed for controlled protein separation. The research progress gained so far was of great importance to clinical applications such as the fast analysis of body/tissue fluids of patients, the construction of databases of analysis parameter for clinical substances, and the fast detection of cancer markers for earl warning and diagnosis.

The project won the research group 4 prizes and 16 patents, and produced 87 papers, of which, 50 were published by key academic journals abroad (SCI impact factor > 3), and 38 conference papers.

New Progress Achieved by NSFC Project in Basic Research of Black Hole Physics

Supported by NSFC, Prof. Wu Shuangqing from Huazhong Normal University conducted independent research on gravitation theory, discovered the exact solutions for the five-dimensional Gödel charged rotating black hole in the universe, and made important headway in the characteristic research of black hole solutions. Part of the research results has been published in international top journal *Physical Review Letters* 100, 121301 (2008).

Due to various reasons, the exact solutions for high-dimensional rotation, especially the charged rotating black hole solution, has attracted great attention from people in recent years, but the exact solution of the high-dimensional charged rotating black hole, especially its solution in pure Einstein-Maxwell theory, is still by far very little known.

However, black hole in reality shall be put against the background of our universe while the standard model of universe solution put forward by Friedman-Robertson-Walker is too idealized and can not well describe the running of the universe. In 2003, Gimon and Hashimoto embedded the five-dimensional Kerr black hole into the pure Gödel universe and obtained the Kerr-Gödel black hole solutions, among which Gödel parameter stood for rotation of the universe. This exact solution later attracted great attention and invited further study. However, the Kerr-Gödel charged rotating black hole is still unknown and the traditional method can hardly calculate the quantal conserved charges, such as mass, angular momentum, charge, etc.

Based on the above work, Prof. Wu Shuangqing, with the support of his NSFC project (project no: 10675051), constructed the exact solutions for the five-dimensional Gödel charged rotating black hole in the universe within the framework of Einstein-Maxwell-Chen-Simon minimum super gravitation theory, and conducted comprehensive research on its basic properties, thermodynamic properties and symmetric property. With the application of thermodynamics, he first successfully elaborated the fact that Gödel parameter possessed similar function to cosmological constant.

New progress in Organic FET

Co-funded by NSFC, MOST and CAS, researchers from the Key laboratory of Organic Solids, Institute of Chemistry, CAS, made new progress in organic field-effect transistors (FET). The results of the study were published recently in the journal of *Advanced Materials* (2008, 20, 1286-1290).

In recent years, due to the potential application of active matrix display and radio frequency tag, organic FET with large area, flexibility and low-cost attracted more concerns from R&D and industrial sectors, and made considerable developments. At present, the performance of organic FET almost meets the practical requirements. Compared to inorganic FET, organic ones are unique in low-cost and flexibility. The prospect of organic FET's application and commercialization is largely subject to its low cost.

In previous research reports, the lab's researchers developed a method of copper and silver modification to replace the source and drain electrodes of organic field effect through which high-performance devices were obtained (*J. Am. Chem. Soc.* 2006, 128, 16,418). Followed by building nano-structure electrodes, the relationship of the device performance with the electrode forms was studied (see the cover paper of *Phys. Chem. Chem. Phys.* 2008, 10, 2302). Recently, the group made new progress in organic FET with low-cost and high-performance. Organic field-effect transistors with the structure of upper electrode were prepared by the use of low work-function copper as the source and drain electrodes. The results have been filed for Chinese patent and published in *Journal of Advanced Materials*.

67 NSFC-RFBR Cooperative Projects Approved for 2008

The NSFC-RFBR Cooperative Project is jointly managed and funded by the National Natural Science Foundation of China (NSFC) and the Russian Foundation for Basic Research (RFBR). In 2008, a total of 105 applications were received, of which 67 were approved for funding based on the evaluations by NSFC and RFBR.

Spin Configuration and Super-exchange Mechanism in Molecular Magnets Observed

Jointly supported by the National Natural Science Foundation of China, Ministry of Science and Technology and Chinese Academy of Sciences, Ma Xucun's group in CAS Institute of Physics and Condensed Matter Physics National Lab, in cooperation with Xue Qikun's research team in the Department of Physics of Tsinghua University, studied the super exchange mechanism in cobalt phthalocyanine (CoPc) thin films by using a low temperature scanning tunneling microscope. With high energy-resolution spin-flip associated inelastic electron tunneling spectroscopy, they explicitly identified the specific molecular orbitals that mediate the super exchange interaction between molecules.

They prepared single crystal multilayer CoPc films on atomically flat Pb films. The CoPc molecules in different layers were found to form one-dimensional anti-ferromagnetic chains. Collective spin excitations in individual molecular chains could be measured directly by spin-flip associated inelastic electron tunneling spectroscopy. Based on one-dimensional Heisenberg model calculation, the coupling parameter between the molecular spins was determined. By spatially mapping the spin-flipping channels with submolecular precision and first-principles calculation, the research group could explicitly identify the specific molecular orbital that mediate the superexchange interaction between molecules. This work provides a new method with high spin sensitivity to detect individual spins and coupling and probe magnetism at the nanometer scale. It is also of great importance for rational design of molecular magnetic materials with desired properties in the field of spin electronics.

NSFC Strengthens its Funding in Wenchuan

NSFC Earth Sciences Department is about to approve two Director's Fund projects to provide better scientific support to the rescue and relief efforts and collect first-hand data with major scientific significance in post-earthquake Wenchuan County, Sichuan Province. One project is on the relation between the stress field of post-earthquake (M=8.0) deformation and the strong aftershocks in Wenchuan County and the other is on the field investigation and studies on geological hazards and secondary disasters of blocking up river caused by earthquake in the County.

Currently, key members of the projects have already arrived on the spot to carry out fieldwork under the coordination of the earthquake rescue and disaster relief steering committee. In addition, the on-going NSFC Key Program project "Research in the three dimensional structure of the crust-mantle and the mobility of the earthquake in the Three Georges Area of the Yangtze River" happens to be setting up mobile earthquake stations in the Three Gorges Area to collect earthquake data. The signals collected from Wenchuan earthquake are of major scientific significance to the research in the 3 dimensional speed structure of the earth surface in the central Three Gorges Area, the discovery of the deep structure and the coupling relationship between deep and shallow structures, and the exploration of the power sources and acting pattern of crustal structure as well its relationship with major fracture, earthquake activities and surface geological disaster. In addition, some other projects related to the formation mechanism of this hard-hit earthquake and the disaster relief efforts are about to start.

Concerns Go to Disaster's Impact on Economy and Emergency Response

On May 12, 2008, NSFC's Department of Management Sciences held a meeting to initiate a program on Disaster Impact on China's Economy and the Emergency Response. Nine research groups were granted in this program through the Department Director's Fund.

According to Dr. Wang Tienan, Program Director of Division III of the Department, a coordinating meeting would be held on June 4 to further adjust and regulate the structure and contents of the program and the main purpose of the meeting would be to strengthen scientific evaluation on economic impact caused by earthquake disaster, policy response on coordinated social and economic development after disasters, and policy research on relative administrative systems.

Disasters call for emergency responses. The Department of Management Sciences is going to team up the scientists who have both prominent academic and practical experience in fields of assessment on damage caused by disaster, emergency management, traffic and power regulation, to provide resolutions and policy response which is full and accurate, scientific, innovative, and feasible, based on close collaboration with relevant administrative authorities.

Providing decision-makers with practical solutions and reference on policy is one of the Department's main tasks. The fundamental aim of the emergency response program is to serve the government's strategy layout with practical policy consultancy, but is by no means the decision-making on behalf of the government, nor putting knowledge innovation as the first priority research aim as normal projects do.

The Department of Management Sciences made it clear that concentrated, prompt and feasible achievements shall be strived for with breakthroughs on key scientific issues. To establish solid grounds and avoid empty preach, quantitative and qualitative approaches shall be combined, case study and theoretical exploration combined and systems science and behavioral sciences integrated.

Thirty-seven NSFC-KOSEF Cooperative Projects Approved

Thirty seven bilateral projects (including 25 joint research projects and 12 joint seminars) between NSFC and KOSEF for FY 2008 were approved by the 12th Meeting of China-Korea Joint Committee for Basic Scientific Research held in Xiamen, China from May 21 to 24, 2008. The approved joint research projects and seminars are listed below.

1. List of NSFC-KOSEF Joint Research Projects for FY2008

No.	Field(s)	Collaborators/Institute	Title/ Period
1	Math. & Physics	Zhuo Zhongchang, Associate Professor, Jilin university	Four wave mixing in lambda type three level and two level schemes for storage of light pulses June 2008-May 2010
		Jung Bog Kim, Professor, Korea National University of Education	
2	Math. & Physics	Miao Yangang, Professor Nankai University	Study of duality and noncommutativity in the Brane world June 2008-May 2010
		Dae Kil Park, Professor Kyungnam University	
3	Math. & Physics (Management Sciences)	Yang Size, Professor Institute of Physics, CAS	Formation of functional film by various plasma treatments June 2008-May 2010
		Heon-Ju Lee, Professor Cheju National University	
4	Math. & Physics (Management Sciences)	Li Xiaomin, Professor Shanghai Institute of Ceramics, CAS	Preparation and characterization of nanoporous oxide films June 2008-May 2010
		Hyung-kook Kim, Professor Pusan National University	
5	Chemistry	Sun Yingji, Associate Professor, Dalian University of Technology,	Dioxygen activation by non-heme transition metal complexes and its application June 2008-May 2010
		Jin-heung Kim, Associate Professor Ewha Woman's University	
6	Chemistry	Li Nianbing, Professor Southwest University	Study on electrochemistry for the identification of saccharide molecules using self-assembly technique June 2008-May 2010
		Juhyoun Kwak, Professor Korea Advanced Institute of Science and Technology	
7	Life Sciences	Wei Jiangchun, Professor Institute of Microbiology, CAS	An exploration into the biodiversity of lichen crust and arid-land restoration in desert area June 2008-May 2010
		Jae-Seoun Hur, Associate Professor Suncheon National University	
8	Life Sciences	Qiao Gexia, Professor Institute of Zoology, CAS	Comparison of aphid fauna between northeastern China and Korean peninsulas June 2008-May 2010
		Lee Seunghwan, Associate Professor Seoul National University	
9	Life Sciences	Chen Xiguang, Professor Ocean University of China	Self-assemble and nano-technology of bio-polymers June 2008-May 2010
		Hyun Jin Park, Professor Korea University	

10	Life Sciences	He Shigang, Professor Institute of Biophysics, CAS	Changing pattern of receptor expression on direction selective ganglion cells and cholinergic amacrine cells during early postnatal development June 2008-May 2010
		Chang-Jin Jeon, Professor Kyungpook National University	
11	Life Sciences	Chai Yourong, Professor Southwest University	Fine mapping of yellow-seed QTLs and characterization of related genes in brassica napus June 2008-May 2010
		Park Beom-Seok, Professor National Institute of Agricultural Biotechnology	
12	Life Sciences (Math. & Physics)	Wang Shaoqiang, Associate Professor, Institute of Geographic Sciences and Natural Resources Research, CAS	Comparative study of carbon dynamics in contrastive forests focusing on global climate changes in the East Asia June 2008-May 2010
		Hojeong Kang, Professor Yonsei University	
13	Life Sciences	Ying Yibin, Professor Zhejiang University	Rapid detection methodology for safety information of agricultural produce based on biosensor technology June 2008-May 2010
		Beom-Soo Shin, Professor Kangwon National University	
14	Earth Sciences (Management Sciences)	Liu Wenju, Professor Agricultural University of Hebei	The relationship and interaction of arsenic and iron in root-soil interface of paddy soil June 2008-May 2010
		Kyung-Woong Kim, Professor Gwangju Institute of Science and Technology	
15	Engineering & Materials	Huang Mingliang, Professor Dalian University of Technology	The solid/liquid interfacial reaction during lead-free soldering in electronic packaging June 2008-May 2010
		Duk Y. Jeon, Professor Korea Advanced Institute of Science and Technology	
16	Engineering & Materials (Chemistry)	Tian He, Professor East China University of Science and Technology	Organic fluorescent logic gates June 2008-May 2010
		Juyoung Yoon, Associate Professor Ewha Woman's University	
17	Engineering & Materials	Xie Liyang, Professor Northeastern University	Study on the impact fatigue fracture of composite materials by experiment and simulation June 2008-May 2010
		Jae Ung Cho, Professor Kongju National University	
18	Engineering & Materials	Lian Zhiwei, Professor Shanghai Jiao Tong University	Research on the critical circulation of R125 heat pump June 2008-May 2010
		Seong-Ryong Park, Professor Korean Institute of Energy Research	
19	Engineering & Materials	Zhou Jing, Professor Dalian University of Technology	Damage mechanism and health monitoring of deep-water submarine pipeline June 2008-May 2010
		Yun Chung-Bang, Professor Korea Advanced Institute of Science and Technology	

20	Information Sciences	Sun Weiqiang, Assistant Professor Shanghai Jiaotong University	The KOREN-CERNET based IPTV testbed between Korea and China June 2008-May 2010
		Jun-Kyun Choi, Professor Information & Communication University	
21	Information Sciences	Xiao Yang, Professor Beijing Jiaotong University	Multi-nodes' fluid model of differentiated service networks and congestion control June 2008-May 2010
		Kim Kiseon, Professor, Gwangju Institute of Science and Technology	
22	Information Sciences	Zeng Guihua, Professor Shanghai Jiaotong University	Investigation on coding techniques for quantum private communication systems June 2008-May 2010
		Moonho Lee, Professor Chonbuk National University	
23	Information Sciences	Ma Yan, Professor Beijing University of Posts and Telecommunications	Study on network measurement and management for next generation broadband wireless and wireline converged networks June 2008-May 2010
		Jong-Tae, Park, Professor Kyungpook National University	
24	Information Sciences (Engineering & Materials)	He Fazhi, Associate Professor Wuhan University	Secured data exchange for collaborative design June 2008-May 2010
		Han Soonhung, Professor Korea Advanced Institute of Science and Technology	
25	Management Sciences	Huang Jinghua, Professor Tsinghua University	Comparative study of China and Korea's mobile business service industries; with implications on the two nations' government policies and firm strategies June 2008-May 2010
		Jong Woo Kim, Associate Professor, Hangyang University	

2. List of NSFC-KOSEF Joint Seminars for FY2008

No.	Field(s)	Collaborators/Institute	Title/Period/Place
1	Math. & Physics	Li Yuanjing, Professor Tsinghua University	Joint Seminar on Dark Matter Search Experiment October 21-25, 2008 Chengdu, China
		Kim Sunkee, Professor Seoul National Univ.	
2	Math. & Physics	Li Gang, Associate Professor Institute of High Energy Physics, CAS	Joint Seminar on Synchrotron Radiation Biomedical Imaging December 20-23, 2008 Kunming, China
		Kim Jong-Ki, Professor Catholic Univ. of Daegu	
3	Math. & Physics	Zhao Gang, Professor National Astronomical Observatories	Sino-Korean Workshop on Astronomy with Precise RV-Extrasolar Planet Search and Asteroseismology June 20-26, 2008, Korea
		Inwoo Han, Senior Scientist Korea Astronomy and Space Science Institute	
4	Math. & Physics	Wang Zhiguang, Professor Institute of Modern Physics, CAS	The 3 rd Korea-China Symposium on Advanced Functional Films for Information July 1-5, 2008, Seoul, Korea
		Chang Kwon Hwangbo, Professor Inha University	
5	Life Sciences	Zhao Xinqing, Associate Professor Dalian University of Technology	Sino-Korea Joint Seminar on the Frontier of Bio-energy Production October 10-12, 2008 Dalian, China

		Keun Kim, Professor The University of Suwon	
6	Life Sciences	Zhang Guoan, Professor Huazhong Agricultural University Byung Rae Jin, Professor Dong-A University	China-Korea Joint Symposium on Insect Biotechnology August 20-23, 2008 Wuhan, China
7	Life Sciences	Zhang Jianing, Professor Dalian Medical University Lee Jin Woo, Professor Dong-A University	The 12 th China-Korea Regional Symposium on Biotechnology August 20-23, 2008 Pusan, Korea
8	Life Sciences	Zhang Shengmin, Professor Huazhong University of Science and Technology In-Seop Lee, Professor Yonsei University	The 6 th China-Korea Symposium on Biomaterials and Nano-Biotechnology October 20-24, 2008 Pusan, Korea
9	Earth Sciences	Liu Da'an, Professor, Institute of Geology and Geophysics, CAS Hyeong-Dong Park, Professor Seoul National University; Gyo-Won Kim, Professor Kyungpook National University	Seminar on Geological Problems under High Geostress in Large Geoengineering Projects October 14-18, 2008 Xichang, China
10	Information Sciences	Li Yun, Professor Chongqing University of Posts and Telecommunications Kee-Wook Rim, Professor Information Technology Research Center for Embedded Software Development Environment	Joint Seminar on Intermittently Connected Wireless Sensor Networks between China and Korea October 12-14, 2008 Chongqing, China
11	Information Sciences	Xu Mingwei, Professor Tsinghua University DeokJai Choi, Professor Chonnam National University	The 4 th China-Korea Annual Meeting on Advanced Networking October 20-24, 2008 Beijing, China
12	Management Sciences	Xu Jichao, Professor Zhongyuan University of Technology Byun Jai-Hyun, Professor Gyeongsang National University	The 7 th China-Korea Bilateral Symposium on Quality July 28-30, 2008 Yanbian, China