

International (Regional) Cooperation and Exchange

The strategy for open and cooperation has been formulated during the 12th NSFC Five-Year Plan period to encourage researchers to conduct extensive and intensive international (regional) cooperation and exchange with top scientists and research institutions around the world, to promote substantial joint research activities for more researches focusing on frontier areas in the world, to stimulate Chinese scientists to participate and initiate bilateral/multilateral scientific collaborations for making full use of international research resources, and to enhance the capability of China's science community in coordinating regional and global scientific cooperation, so as to impel strategic cooperation and strengthen the influence of China's basic research globally.

In line with the 12th Five-Year Plan and the key tasks, NSFC will continue to take the Exchange Program as the basis of its international funding framework and prioritize substantial Joint Research Program, with a view to attracting and utilizing overseas resources to boost indigenous innovative capability, and steadily pushing ahead strategic cooperation as the ultimate goal in the year 2013.

The year 2013 will witness a continued increase in funding for NSFC Major International (Regional) Joint Research Program. Efforts will be made to enhance the quality and better the management and implementation of projects funded. Scientists are encouraged to take full advantages of global S&T resources. Continued efforts will be made to strengthen the strategic cooperation under the agreement framework signed between NSFC and its foreign partners by developing and implementing substantial and high-caliber joint research programs. An emphasis will be on optimizing of prioritiesselection, planning as a whole of the framework of joint research program, and so that to jointly support the substantial and high quality research together with our counterparts. NSFC will keep on its funding for personnel exchange programs and international workshops held in China, with a view to building up an international/regional joint research network between China based scientists and their international partners. The funding mechanism for the Research Fund for International Young Scientists will be

further perfected.

Funding Programs

According to the actual needs of scientists and researchers in China, 4 categories of international (regional) cooperation and exchange programs have been established, i.e., International/Regional Joint Research Program, International/Regional Cooperation and Exchange Program, International (Regional) Academic Conferences, and Research Fund for International Young Scientists.

By November 2012, NSFC had concluded 68 cooperation agreements/MOUs with science funding agencies and research institutions in 37 countries/regions to provide joint funding for joint activities among Chinese scientists and their foreign partners, such as joint research, personnel exchange and academic conferences. China based applicants can either submit applications for international (regional) cooperation and exchange programs to NSFC by themselves, or submit applications to NSFC together with foreign collaborators submitting corresponding applications to their science funding agencies that have signed cooperation agreements/MOUs with NSFC. The former will be funded by NSFC solely and is called “Program of None Bilateral Agreements/MOUs”; while the latter will be funded jointly by NSFC and its foreign partners and is thus called “Program within Bilateral Agreements/MOUs”.

For Programs under Bilateral Agreements/MOUs, NSFC is necessary to reach agreement with its foreign partners with respect to program category, priority areas, funding scale, and use of funds, etc., and then joint call for proposals is announced at the same time on their respective websites.

International (Regional) Joint Research Program

In order to further cut the edge of China’s scientific research and its international competitiveness and to achieve breakthroughs in the frontier research areas, the International (Regional) Joint Research Program aims at funding Chinese scientists to conduct substantial cooperation with their international collaborators on the basis of “equal cooperation, mutual benefits, and equal sharing of research results”. Major International (Regional) Joint Research Program and Joint Research Program jointly funded under the framework of agreements between NSFC and its foreign partners comprise the International (Regional) Joint Research Program.

Major International (Regional) Joint Research Program

The Program gives priority to research in the following areas: joint research in the priority funding areas of NSFC, joint research in areas that China urgently needs to develop, international mega projects and programs with Chinese participation, and joint research projects utilizing large-scale scientific facilities abroad.

Researchers applying for this program shall, in accordance with the priority funding areas announced by relevant scientific departments, choose innovative joint research subjects centering on major scientific issues, and clarify the necessity and complementarities of the cooperation. The partners shall have long-term steady collaboration and the overseas partners shall have matching funds for this research. In the process of cooperation, attention shall be given to the protection of intellectual property rights.

In 2012, all together 106 projects under the Major International (Regional) Joint Research Program were funded with a total funding of 300 million yuan, i.e., an average funding of 2.83 million yuan per project, which means an increase in number of projects funded by 15.2% and an increase in funding scale by 17.6% respectively over the year 2011.

In 2013, the average funding will be increased to 3 million yuan per project and each project usually lasts for 5 years.

Eligibility of Applicants:

In order to be eligible for this program, applicants should be granted with the title of professor or associate professor and be principal investigators of on-going or completed NSFC research project with the duration of no less than 3 years.

Budgetary Contents:

Budget includes both research funds and funds for international cooperation and exchanges, with the funds for international cooperation and exchanges accounting for no more than 40% of the total budget.

Appendix Documents:

- (1) English Application Form: The English Application Form can be downloaded in the Internet-based Science Information System (ISIS) of NSFC and should be uploaded online when filled in.
- (2) Letter of Agreement: A copy of the Letter of Agreement signed between the collaborating PIs should be provided. Unilaterally signed letters are

not valid. The Letter of Agreement mainly covers:

- (i) Research contents and objectives
- (ii) Collaborating PIs and participants
- (iii) Period, mechanism and plan of joint research
- (iv) Ownership, use and transfer of IP rights
- (v) Relevant budgetary arrangements

The applicant is referred to the sample Letter of Agreement which can be downloaded _____ at

<http://www.nsf.gov.cn/nsfc/cen/gjhz/cjw/cjw2011-10-26-06.html>.

(3) Letter of confirmation by the foreign collaborator: If the foreign collaborator cannot sign the English Application Form, a letter of confirmation by him/her should be provided. The letter of confirmation should contain true contact information about the foreign collaborator. The letter of confirmation should be written in official forms including the title, logo and contact information of the foreign collaborator's employer. In addition, the letter of confirmation should contain detailed clarification of the joint research title, content and period of cooperation, sharing of the IP rights, etc. The foreign collaborator should promise in the letter of confirmation that he/she has read and agrees with the English Application Form.

Application Window and Channel:

Proposals for the Major International (Regional) Joint Research Program should be submitted during the concentrated application window and the scientific departments of NSFC who are responsible for receiving applications.

Priority Areas for Funding in 2013:

Department of Mathematical & Physical Sciences

Applications featuring win-win cooperation, distinct characteristics, and clear research goals, and joint research projects based on experiment facilities in China, oriented to international key experiments, or based on international large scale experiment facilities are especially encouraged by the Department of Mathematical & Physical Sciences.

- (1) Mechanical behavior of materials under extreme environment
- (2) Non-linear mechanics of complex systems
- (3) Sky surveys and space observations
- (4) New astronomical technological methods associated with the large telescopes
- (5) Superfast and super strong light physics and precision measurement physics

- (6) Spectrum of advanced materials and high-performance computing of physical processes
- (7) Low-dimensional systems of quantum transport experiments
- (8) Study of high performance particle detector
- (9) Hadron structure and new cutting-edge research of hadron states
- (10) Magnetically confined fusion beam injection and related physical issues
- (11) Physical issues in new energy
- (12) Joint research based on large-scale scientific facilities at home and abroad

Department of Chemical Sciences

- (1) Process and mechanism of surface and interface chemistry
- (2) Analytical chemistry for life sciences
- (3) Molecular assembly, structure and function
- (4) Theoretical and computational chemistry
- (5) New system of materials chemistry related to energy and resources
- (6) Green chemical processes and technique
- (7) Natural products chemistry and drug discovery
- (8) Environmental pollution chemistry and control
- (9) Chemical biology

Department of Life Sciences

- (1) Modification, identification and control of proteins
- (2) Structure and function of nucleic acid
- (3) Self-renewal and directed differentiation of stem cells
- (4) Regulation of tissue organ development
- (5) Cellular and molecular mechanisms of immune response
- (6) Biodiversity and its maintenance mechanisms
- (7) Genetic network and genetic regularity of complex traits
- (8) Phylogeny and molecular evolution
- (9) Metabolism, secondary metabolism and regulation
- (10) Excavation and biological evaluation of germplasm resources
- (11) Analysis of important traits of major agrobiological genetic networks
- (12) Water, nutrient needs of major agricultural plants and mechanisms for efficient use
- (13) Occurrence of major agricultural plant pests and mechanisms for prevention and control
- (14) Occurrence of major agricultural animal diseases and its prevention and control
- (15) Formation of nerve cells and the loops and signal processing mechanisms

(16) Biochemical basis of food storage and manufacturing

Department of Earth Sciences

- (1) Mineralization model, mineralization system and mechanism
- (2) Urbanization process and its effects on resources and environment
- (3) Geological and geophysical process of continental earthquake
- (4) Interactions between oceanic plate and the continental margin
- (5) Coupling relation between deep and surface earth processes
- (6) Seabed resources mineralization and accumulation theory
- (7) Marine ecosystems and ecological security
- (8) Impact of climate change on surface earth processes and ecosystems
- (9) Exchange of energy and matter cycle in the climate system
- (10) Solar-terrestrial energy transfer between and its impact on human activities
- (11) Water resources and water cycle
- (12) Dynamic mechanism and predictability of weather and climate change
- (13) Asia monsoon-arid environmental systems and global environmental change
- (14) Effects of key engineering projects on geological environment and hazards
- (15) Origin and evolution of important biological groups

Department of Engineering and Materials Sciences

- (1) Photoelectric functional materials
- (2) Energy materials
- (3) Environmental material
- (4) High-performance structural materials
- (5) Basic theory, preparation and characterization techniques of materials sciences
- (6) Law of efficient resource mining and its interactions with environment
- (7) Interface science of metallurgy and material preparation
- (8) Function and integration of complex electromechanical systems
- (9) Precise manufacturing of high performance parts / components
- (10) Efficient and clean use of fossil energy
- (11) Carbon dioxide capture and storage (CCS)
- (12) Smart grid infrastructure
- (13) Design principles and technology system for urban and rural energy-saving building
- (14) Urban science in environmental change
- (15) Basic theory and frontier technology of marine engineering
- (16) Whole life design and control engineering structures

- (17) Basic research on biomaterials and their surface and interfacial functions related to intervention medicine
- (18) Efficient use of water resources in changing environment
- (19) Mechanism, toxicological effects and control of combined pollution of drinking water
- (20) Interdisciplinary scientific issues on energy efficiency, use of renewable energy and greenhouse gas control
- (21) New materials and new artificial structural materials

Department of Information Sciences

- (1) Basic theory and key technology of electromagnetic vortex
- (2) THz science and technology
- (3) Intelligent network and E-Health science applications
- (4) Big data analysis and processing
- (5) New biological material based computing system
- (6) Great demand oriented high-performance computing
- (7) Basic theory and key technology of task-oriented advanced robotic systems
- (8) Theory and methods of cooperative control of multi-agent systems
- (9) On-line analysis and emergency safety protection of complex system running faults
- (10) Mid-infrared fiber lasers
- (11) Anti-radiation integrated circuits and devices
- (12) Wide band gap semiconductor materials and devices
- (13) Biomedical photonics
- (14) Photonic integration technology

Department of Management Sciences

- (1) Behavior based complex management system
- (2) Management science issues in emerging technology and service economy
- (3) Public policy research
- (4) Key management science issues with Chinese characteristics
- (5) Regional coordinated and sustainable development
- (6) Innovation systems and S&T policy

Department of Health Sciences

- (1) Cardiovascular diseases
- (2) Nutrition, metabolic, and diseases
- (3) Immunity and diseases
- (4) Tumor

- (5) Aging and diseases
- (6) Pain and analgesia
- (7) Mental illness and mental health
- (8) Infectious diseases
- (9) Eye, ENT and oral diseases
- (10) Injury and repair
- (11) Reproductive health
- (12) Health of women and children
- (13) Stem cells and diseases
- (14) Regenerative medicine
- (15) Medical imaging and biomedical engineering
- (16) New technologies and methods for disease diagnosis and treatment
- (17) Epidemiologic and preventive strategies for major diseases and injuries
- (18) Environmental and genetic factors and major diseases
- (19) Food hygiene
- (20) New drugs
- (21) Pharmacogenomics and metabolomics

Joint Research Program within Bilateral Agreements/MOUs

Joint research program within bilateral agreements/MOUs includes bilateral or multilateral joint research projects funded by NSFC and its international partners under the framework of cooperation agreements /MOUs signed among them in hope of supporting Chinese researchers and their collaborators abroad to carry out their research in basic sciences.

As eligibility for application, priority funding areas, application deadlines, reporting requirements, applicants are referred to Regulations on the management of NSFC International (Regional) Joint Research Programs and the calls for proposals launched on NSFC website.

International (Regional) Exchange Program

The Program aims to encourage NSFC grantees to participate in extensive international cooperation and exchange activities, and to enhance the innovativeness, talent training, disciplinary development and research quality of the on-going NSFC projects. Meanwhile, it encourages scientists to maintain sound bi/multilateral relations with overseas partners through wide cooperation and exchange, laying a solid foundation for future substantial collaboration.

Eligibility of Applicants:

Researchers need to hold or participate in on-going NSFC projects with the duration of no less than 3 years.

Funding Contents:

The Program funds Chinese scientists to carry out exchange activities with foreign scientists on subjects of common interest and closely related to ongoing projects of NSFC. The Program mainly funds personnel exchange activities, and the funding for this program covers international travel costs for Chinese scientists and the local cost including meals, accommodation and travel cost between cities in China for oversea collaborators in China.

Supplemental Documents and Relevant Requirements:

Supplemental documents include cooperation agreement signed by Chinese and foreign PIs, invitation letters to Chinese team to go abroad and confirmation letter of visit to China signed by foreign collaborators. One application may cover costs for both the visit of Chinese to go abroad and hosting the collaborators in China if that will be happened in the same year.

Application Window and Channel:

Proposals for international/regional exchange program out of bilateral agreements/MOUs should be submitted to the relevant science department of NSFC that is in charge of the on-going project no less than 3 months prior to the planned dates of collaborative activities.

Program within bilateral agreements/MOUs

The program is under the framework of bilateral agreements/MOUs that jointly organize and support scientists to conduct bilateral or multilateral cooperation and exchange. The eligibility of applicant, priority funding areas, funding duration, and requirements are referred to the part of Funding Program of the International (Regional) Cooperation and Exchange of the *Guideline to Programs* and the calls for proposals irregularly launched on NSFC website.

International (Regional) Conferences

NSFC funds its project undertakers to hold international conferences in China with a view to enabling Chinese scientists to keep pace with the latest research frontiers and hotspots in the international academic arena, to enhancing the partnership between Chinese scientists and their foreign peers, and to promoting the visibility of the results achieved by NSFC funded

projects and raising the profile of China's academic community.

The conferences held in China should be closely related to the on-going NSFC projects, and the themes of these conferences shall be of major significance to the progress of relative scientific disciplines in China and in line with NSFC priority areas, and facilitate the implementation of NSFC funded programs. NSFC also supports its project undertakers to organize and take part in academic workshops and summer school held in China or abroad within the framework of its agreements with overseas partners and within bilateral agreements/MOUs.

Eligibility of Applicant:

Researchers holding or participating in on-going NSFC projects with the duration of no less than 3 years may send their applications to the relevant scientific departments of NSFC.

Funding Contents:

Costs for startup the conference include the cost of preparatory meetings, printing conference documents, etc.

Supplemental Documents and Relevant Requirements:

Supplemental documents include copies of approval documents granted by the upstream authorities in charge of the PI's home institutions, name list of foreign participants in the conference, announcement of the conference, etc.

Application Window and Channel:

Proposals for international/regional conferences held in China out of bilateral agreements/MOUs should be submitted to the relevant science department of NSFC that in charge of the on-going project no less than 3 months prior to the planned date of the conferences. Please note that no proposals for international/regional conferences out of bilateral agreements/MOUs are accepted by NSFC during its annual concentrated application window.

For the international/regional exchange program within bilateral agreements/MOUs, concrete eligibility for application, priority funding areas, funding duration, and requirements are clarified in the part of "Introduction to Funding Channels and Programs within Bilateral Agreements/MOUs" in this chapter and the calls for proposals irregularly launched on NSFC website.

Research Fund for International Young Scientists

Established in 2009, the Research Fund for International Young Scientists aims to support foreign young researchers with excellent educational background, Ph.D. degrees and great potential to carry out their basic research in mainland China based universities and academic institutes. Eligible applicants should have certain research experience and host institutions in China. The research fund is for now jointly operated by the Chinese Academy of Sciences, Ministry of Education (MOE) and NSFC as a trial. Candidates are selected from those recommended by CAS and MOE, and have to submit individual applications which will be evaluated by NSFC expert panel. The host institutions in China are responsible for providing necessary working and living conditions for the applicants.

The applicants shall satisfy the following requirements:

- (1) Excellent foreign young researchers with Ph.D. degrees, less than 35 years old on January 1 of year of application (born on January 1, 1978 or after).
- (2) No less than 3 years of experience in basic research in renowned universities and academic institutes, or postdoctoral experience.
- (3) Work in Chinese universities or research institutes successively for 6 months or 12 months.
- (4) Obey Chinese laws and NSFC's managerial rules during the stay in China.

The host institutions shall satisfy the following requirements:

- (1) The host of applicant in the host institution is assigned as the contact person to provide consultation for the foreign applicant and assist him/her in managing the fund.
- (2) An agreement to be signed with the applicant includes the following.
 - (i) Topic, direction and targets of the research;
 - (ii) Living and working conditions provided for the applicants during the stay in China;
 - (iii) Time period the applicants promised to work in the host institutions;
 - (iv) An agreement on protection of intellectual property rights.

In 2012, a total of 111 applicants were approved for funding with a budget of 21 million RMB, and 31 of the applicants were approved for renewed funding. In 2013, around 80 applicants are planned for funding and 20 grantees are planned for renewed funding with a total budget of 20 million RMB.

Currently funding period for the research fund lasts for either 6 months (Jan. 1 to Jun.30, or Jul. 1 to Dec. 31) or 12 months (Jan. 1 to Dec. 31, or Jul. 1 to Jun. 30 next year.), with a funding of 100,000 RMB and 200,000 RMB respectively.

Funding Contents

Research costs and costs for international collaborative activities.

Supplemental Documents and Relevant Requirements

Supplemental documents include a copy of cooperation agreement signed between the applicant and his/her host institution in China, 2 recommendation letters (at least 1 of the letters is written by a foreign scientist), a copy of the applicant's Ph.D. degree diploma, and representative publications by the applicant.

Please refer to the Special Notice on the Research Fund for International Young Scientists announced on NSFC's website for more detailed information concerning the recommendation and application in 2013.

Cooperation and Exchange with Foreign Countries and Regions within Bilateral Agreements/MOUs

In accordance with the cooperation agreements/MOUs signed with international science funding agencies and academic institutions, NSFC continues to make efforts to fund international joint research projects and to normalize and better the management of funding, review, and assessment of the results achieved by the joint research projects funded.

Since the international partners of NSFC are located in different countries and regions, with varied start dates of fiscal year and diverse windows for application and related requirements. Therefore, applicants are referred to the calls for proposals launched on NSFC website for detailed information about specific joint research programs.

Asia, Africa and International Organizations

By 2011, NSFC has signed bilateral agreements or MOUs on S&T cooperation with 11 scientific funding organizations in Asia and Africa and

6 international organizations in the world.

Japan

Japan Science and Technology Agency (JST)

The NSFC and JST Joint Research Program initiated in 2004 on the theme of “S&T for Environmental Conservation and Construction of a Society with Less Environmental Burden”. Every year both sides negotiate and define specific priority areas for cooperation, followed by a bilateral workshop in the defined priority area. Participants in the annual workshops will propose concrete research topics for joint funding. Since 2013, biomedical science is defined as the priority area for both sides.

The encouraged research topic for 2013 is clinical genomics. The joint call for proposals will be launched by NSFC and JST on their websites respectively, and no more than 5 3-year projects are funded per year, with NSFC investing 2 million RMB for each project.

Japan Society for the Promotion of Science (JSPS)

The call for proposal is issued by both organizations on their websites in June every year. The application deadline is on Friday of the first complete week in September.

(1) Exchange Projects

NSFC and JSPS jointly support no more than 10 3-year exchange projects (the exchange volume shall not exceed 60-person days each year) each year.

(2) Bilateral workshops

NSFC and JSPS jointly support 4 bilateral workshops per year organized by Chinese and Japanese scientists, of which two are held in China and two in Japan. Participants of the bilateral workshops from each side must come from at least three institutions.

Korea

National Research Foundation (NRF)

The call for proposals is issued by both organizations on their websites in October and the deadline for personal exchange projects and bilateral academic workshops is usually in the middle of January 15 of the next year. The joint funding will be decided by the Sino-Korean Joint Committee on Basic Science, which approved 22 exchange projects and 10 bilateral academic workshops in 2012. Around 30 bilateral projects (including both

exchange projects and bilateral workshops) will be funded by the both sides in 2013.

(1) Exchange Projects

Around 20 2-year exchange projects are planned to be funded by NSFC and NRF in 2013.

(2) Bilateral workshops

Around 10 bilateral workshops are planned to be funded by NSFC and NRF in 2012. Participants of bilateral workshop from each side must come from at least three institutions.

Israel

Israel Science Foundation (ISF)

NSFC and ISF give priority to joint research projects and bilateral workshops in the area of natural science.

(1) Joint Research Projects

NSFC and ISF will launch in 2013 joint call for proposals in fields of Physics, Chemistry and Agriculture. No more than 10 3-year projects are planned for joint funding, with NSFC investing 2 million RMB for each project.

(2) Bilateral workshops

Each year, no more than 2 bilateral workshops are planned to be funded by NSFC and ISF. The workshop themes are decided by both sides through negotiation.

Japan & Korea

A3 Foresight Program

Jointly sponsored by NSFC, Japan Society for the Promotion of Science (JSPS) and National Research Foundation of Korea (NRF), the A3 Foresight Program supports the cooperation of scientists from China, Japan and Korea to conduct cutting edge research in selected strategic areas, so as to foster excellent young researchers and make contributions to the solution of common regional issues.

The priority funding area for each year usually follows the theme of by NSFC, JSPS and NRF during the meeting of the Asian Heads of Research Councils (AHORCs) in the previous year. The priority funding area in 2013

is biological materials and nano-biotechnology.

The call for proposal will be simultaneously announced on the websites in December by the three parties and two 5-year projects will be jointly funded, with NSFC investing 4 million yuan in each approved project.

In accordance with the agreement of NSFC, JSPS and NRF, the funding period for the A3 Foresight Program project will be prolonged from 3 years to 5 years since 2012. Expert panels of the 3 parties will conduct an interim assessment of the projects approved after 3 years of implementation.

Others

NSFC has signed scientific agreements for funding joint research projects and bilateral workshops with the Academy of Scientific Research and Technology of the Arab Republic of Egypt, Pakistan Science Foundation, National Research Council of Thailand, Research Foundation of Thailand, Department of Science and Technology of India, and Research Foundation of South Africa, etc. Bilateral projects are jointly decided case by case with mutual agreement.

International Scientific Organizations

Center of European Nuclear Research (CERN)

According to the cooperation agreement with CERN, NSFC supports Chinese scientists' participation in LHC experiment at CERN jointly with the Ministry of Science and Technology and the Chinese Academy of Sciences.

International Center for Theoretical Physics (ICTP)

About 50 Chinese young scholars are funded by NSFC every year in the areas of mathematics, physics and earth science to participate in various research activities at ICTP, such as summer seminars, short-term joint research or post-doctoral research.

The list for specific activities and an open call for candidates is to be announced on NSFC's website in November every year. Name list of selected candidates are further recommended to ICTP. The recommended candidates should apply to ICTP according to ICTP requirements.

International Institute of Applied Systems Analysis (IIASA)

NSFC encourages Chinese scientists to conduct multilateral cooperation

with various IIASA project groups in the areas of energy, environment, land use, population, etc., and to jointly apply for research funding from various governmental organizations, private and national foundations, World Bank and EU Framework Program.

NSFC provides necessary supports fully or partially for several Chinese young scholars to participate in the annual 3-month Young Scientists Summer Program from May to August at IIASA every year. For detailed information, please refer to the IIASA website at <http://www.iiasa.ac>. Besides, NSFC also support workshop, cooperation and exchange and joint research projects jointly sponsored by Chinese and IIASA scientists.

As per its 10-Year Strategic Plan (2011-2020), IIASA encourages Chinese scientists and IIASA researchers to conduct joint scientific research on 3 global issues, i.e., food and water resources, energy and climate change, poverty and peace, based on systemic analysis methods.

Based on mutual consultation, the call for proposals will be launched by NSFC on its website in due time.

Consultative Group on International Agricultural Research (CGIAR)

NSFC has reached agreements with 8 CGIAR institutes/centers (i.e., Bioversity, CIAT, CIMMYT, CIP, ICRAF, IFPRI, ILRI, and IRRI) to fund joint research projects conducted by bilateral scientists. The funding period for each project is 5 years. In 2012, a total of 10 joint research projects were jointly funded.

The call for proposals will be released by NSFC on its website in January every year, and the deadline for application is March 20th. No more than 12 projects are planned for funding in 2013, with an average funding amount of 2-3 million RMB per project for 5 years. For information about the priority funding areas in 2013, please refer to the call for proposals to be released.

America, Oceania and Eastern Europe

NSFC has signed scientific cooperation agreements or MOUs with science funding organizations and research institutions in 18 countries in America, Oceania and Eastern Europe. Categories of programs to be funded include joint research, short-term visits and bilateral academic workshops.

USA

In 2013, priority for the bilateral collaboration between China and the USA is in the area of natural science. Bilateral workshops, personnel exchanges, and substantial joint research projects in areas of common interest are especially encouraged.

The U.S. National Science Foundation (NSF)

1. Personnel exchange program and bilateral workshops

(1) Case-by-case application

Chinese applicants may apply to NSFC at any time of the year together with NSF approval materials provided by the U.S. counterparts, while the U.S. counterparts apply to NSF according to NSF's specific requirements.

(2) NSFC-NSF Exchange Projects in Biodiversity Research

To promote bilateral cooperation and development in global change area, NSFC and NSF fund exchange projects between Chinese and US scientists, to encourage them to set up and maintain new cooperative relationship. NSFC will invest up to 750,000 RMB in each approved 5-year project. Cross-disciplinary, cross-organizational and cross-regional research, training and educational activities between Chinese and US scientists are encouraged and the participation of young researchers, post-docs, postgraduates and undergraduates are welcomed. Exchange activities include personnel and student exchange, launch of public websites as well as some workshops. During the last 2 rounds of project solicitation, 2 projects were jointly funded. For detailed requirements, please refer to the call for proposals launched on NSFC's website.

2. Joint Research Projects

NSFC and NSF will accept joint research applications in the areas of materials sciences, information sciences and Biodiversity at a certain time of the year.

(1) NSFC-NSF Joint Research Projects in Materials Sciences

To promote joint research in material science between Chinese and US scientists, NSFC and NSF together fund joint research projects with an implementation period of 3 years between scientists of both countries. NSFC provides up to 2 million RMB for each approved project, covering research costs, international travel costs and local accommodation of visiting researchers. One project was granted for funding in 2012.

(2) NSFC-NSF Joint Research Projects in Advanced Sensors and

Bio-inspired Technologies

To promote joint research in Advanced Sensors and Bio-inspired Technologies (ASBIT) between Chinese and US scientists, NSFC and NSF together fund joint research projects with an implementation period of 3 years between scientists of both countries. NSFC provides up to 1.2 million RMB for each approved project, covering research costs, international travel costs and local accommodation of visiting researchers. During the last round of joint solicitation in 2011, 6 projects were granted for funding.

(3) NSFC-NSF Joint Research Program on Software

To promote joint research on software between Chinese and US scientists, NSFC and NSF together fund joint research projects with an implementation period of 3 years between scientists of both countries. NSFC provides up to 3 million RMB for each approved project, covering research costs, international travel costs and local accommodation of visiting researchers.

(4) NSFC-NSF Joint Research Program on Biodiversity

To promote joint research on biodiversity between Chinese and US scientists, NSFC and NSF together fund joint research projects with an implementation period of 5 years between scientists of both countries. NSFC provides up to 3 million RMB for each approved project, covering research costs, international travel costs and local accommodation of visiting researchers.

The U.S. National Institutes of Health (NIH)

NSFC and the U.S. National Institutes of Health (NIH) signed an MOU on Oct. 14, 2010 and launched in 2011 and 2012 two rounds of pilot cooperative projects on cancer, allergic diseases, infectious diseases (including HIV/Aids and comorbidities), medical immunology, mental health, etc. A total of 42 projects were granted for joint funding in 2012 with 300,000 RMB each project. On the basis of the previous two rounds of pilot projects, both sides decide to fund 3-year joint research projects since 2013, with an average funding amount of up to 3 million RMB per project.

Russia

In 2013, NSFC and the Russian Foundation for Basic Research (RFBR) will jointly support cooperation and exchange activities in natural sciences and engineering. In accordance with the agreement between NSFC and RFBR, the joint call for proposals is announced once a year and Chinese and Russian teams shall each have 5 researchers. Projects approved will receive a two-year funding of 90,000 RMB from NSFC, for Chinese researchers?

international travel and living expenses in Russia. Altogether both sides fund up to 50 projects each year. The call for proposal for 2013 will be announced on the websites of NSFC and RFBR in early 2013.

Canada

(1) Exchange Projects

In 2013, NSFC and NSERC will continue to accept applications for exchange projects under the framework of the agreement between NSERC and NSFC at any time during the year.

In 2013, NSFC and Fonds de recherche du Québec - Santé (FRQs), Canada will keep on their joint funding for exchange projects under the framework of agreement between FRSQ and NSFC.

(2) Joint Research Projects

In 2013, NSFC and the Canadian Institutes of Health Research (CIHR) will continue to support joint research projects between Chinese and Canadian scientists in the area of health-related basic research. Each project will normally be carried out over 3 years. NSFC will provide 1 million RMB for each jointly approved project, and the grants may be used to cover expenditures directly related to the research project, international travel and subsistence costs for exchange visits. CIHR also provides an equivalent amount of funding for expenditures directly related to the research project, international travel and subsistence costs for exchange visits. The priority funding areas, number of projects to be funded, concrete application procedures for 2013 will be clarified in the call for proposals to be launched on the websites of both agencies.

Australia

In 2013, NSFC and the Australia Research Council (ARC) will continue to fund exchange projects within the framework of bilateral agreement between ARC and NSFC.

Others

NSFC will continue to fund exchange projects in 2013 under the framework of bilateral agreements signed with the Czech Science Foundation, the Foundation for Research, Science and Technology in New Zealand, and funding agencies in other countries.

Western Europe

NSFC has signed agreements and MOUs on scientific cooperation with 30 science foundations or research councils in 15 countries in Europe. Activities to be funded include short-term exchange visits, bilateral academic workshops and joint research.

UK

Royal Society

NSFC and the Royal Society of UK (RS) provide support up to 20 joint projects with a period of 2 years. NSFC provides international travel costs for Chinese scientists and local costs for British scientists in China. RS provides at most 6,000 pounds for each project, covering international travel costs for British scientists to China and local costs for Chinese scientists in UK. In the midyear of 2013, NSFC and RS will announce their call for proposal simultaneously in both countries. Chinese scientists shall submit proposals directly to NSFC and UK scientists to RS, and the results will come out at the end of December 2013. Projects approved will start on April 1, 2014 and end on March 31, 2016.

RSE

NSFC and the Royal Society of Edinburgh (RSE) provide joint funding for 2-year joint research projects between scientists from China and Scottish region in areas of common interest, according to the MOU signed between NSFC and RSE. The specific areas for cooperation and the number of projects to be approved each year are decided by both sides through negotiation. NSFC provides international travel costs for Chinese scientists to UK and local costs for British scientists in China. RSE provides at most 6,000 pounds for each project, covering the international travel costs for British scientists to China and local costs for Chinese scientists in UK. NSFC and RSE will announce their call for proposal simultaneously in both countries in the midyear of 2013. Chinese scientists should submit proposals directly to NSFC and Scottish scientists to RSE, and the result will come out before the end of 2013. Projects approved start on Jan. 1, 2014 and end on Dec. 31, 2015.

RCUK

(1) Workshops

NSFC will continue to cooperate with UK Research Councils such as EPSRC, BBSRC, NERC and MRC to fund small-scaled bilateral workshops co-organized by Chinese and British scientists.

(2) Joint Research Program

NSFC and Research Councils in UK (RCUK) support substantial collaborations between scientists of both countries in areas of common interest, in consideration of the existing cooperation between scientists. NSFC and the Research Councils will announce their call for proposal after discussion, and scientists from both countries shall submit proposals to their respective funding agencies. According to the evaluation results, NSFC and RCUK will jointly make decisions for funding including research expenditure, international travel costs and living expenses for exchange of personnel. For detailed requirements, please refer to the call for proposals launched on NSFC's website.

Germany

According to the agreement on cooperation between NSFC and DFG, the both sides provide supports for short-term (no longer than 3 months) research visits, bilateral workshops and joint research projects.

(1) Exchange Program

Chinese and German scientists shall submit their applications to their own funding organizations 3 months in advance. The final decision for funding will be jointly made after evaluation and consultation. Applicants may submit their applications throughout the year.

(2) Workshops

Chinese and German scientists shall submit their applications for workshop to their own funding organizations 3 months in advance. The final decision for funding will be jointly made after evaluation and consultation. Applicants may submit their applications throughout the year.

(3) Joint Research Program

NSFC and DFG encourage substantial joint research between scientists of both countries. Funding for the projects includes research expenditure, international travel costs and living expenses for exchange of visit. For detailed requirements, please refer to the call for proposals launched on NSFC's website.

(4) Major Interdisciplinary Joint Research Program

According to the agreement on cooperation between NSFC and DFG, Chinese and German research teams are encouraged to conduct major

interdisciplinary joint research projects. Researchers from 3-5 research institutions on each side are encouraged to combine their research capacity and, based on mutual agreement on research topics and objectives, submit joint applications to NSFC and DFG respectively for long-term bilateral collaboration, interdisciplinary research and training of young scientists. Sound track record of long-term bilateral substantial cooperation and high-level principal investigators are required for application. The joint research should focus on major interdisciplinary issues through well design with a view to bringing about seminal research results, and the sub-topics should be closely interlinked and complementary so as to promote the development of disciplinary frontiers and interdisciplinary research. Complementariness and sustainability of bilateral collaboration are required and promotion of long-term cooperation in relevant fields is encouraged.

The collaborating research teams on both sides should submit corresponding pre-applications to NSFC and DFG respectively. For jointly accepted applications, NSFC and DFG will organize a workshop in either China or Germany. In line with the conclusions of the workshop, NSFC and DFG will consult each other and decide together on whether to invite full applications from the applicants. The co-PIs on both sides will be notified of the joint decision. Chinese applicant should meet the requirements listed in the NSFC Regulations on the Management of International (Regional) Joint Research Programs as well as the joint call for proposals. Based on mutual agreement between NSFC and DFG on inviting full applications, applicants should submit full applications to NSFC and DFG respectively according to relevant requirements and procedures. Both NSFC and DFG will invite peer experts to conduct panel review of the applications. As per the recommendations of the panel, NSFC and DFG will make the final decision on funding according to each other's regulations and decision making procedures. Only those applications jointly approved by NSFC and DFG are qualified for joint funding. It will take 18-24 months from the launch of joint call for proposals to the final funding of the projects. The funding period of the major interdisciplinary joint research project is 4 years.

France

CNRS

NSFC and French National Center for Scientific Research (CNRS) support exchange of visits between Chinese and French scientists. NSFC funds international travel costs for Chinese scientists to France and the local costs for French scientists in China, and CNRS funds the local expenses for

Chinese scientists in France and international travel costs for French scientists to China. For detailed application requirements, please refer to the call for proposal to be announced in 2013.

ANR

According to the MOU signed between NSFC and ANR, both sides encourage substantial cooperation in areas of common interest between scientists and research groups of both countries. The call for proposals will be announced on the NSFC's website in January 2013.

Others

Under its respective agreements with CEA, INRA, and IFREMER, NSFC provides funding for joint research and bilateral academic workshops between Chinese and French scientists in the area of basic research.

Finland

Academy of Finland (AF)

According to the agreement of scientific cooperation between NSFC and the Academy of Finland (AF), both sides provides necessary support for exchange activities (usually less than 3 months) and bilateral academic workshops between Chinese and Finnish researchers.

(1) Exchange Projects

Chinese and Finnish researchers shall submit their applications for personnel exchanges and visits throughout the year to their respective funding agencies 3 months in advance, and the joint funding decision is made according respective evaluations and consultation.

(2) Bilateral Workshops

Chinese and Finnish researchers shall submit their applications for bilateral workshops throughout the year to their respective funding agencies 3 months in advance, and the joint funding decision is made according respective evaluations and consultation.

(3) Joint Research Program

NSFC and AF encourage scientists or research teams of both countries to carry out substantial joint research in areas of common interest. Funding for the projects includes research expenditure and international exchange costs. For detailed requirements, please refer to the call for proposals launched on NSFC's website.

Austria

Austrian Science Fund (FWF)

According to the agreement of scientific cooperation between NSFC and Austrian Science Fund (FWF), both sides support academic exchanges and joint research in areas of common interest. Each year, the both sides will decide the collaborative areas and the numbers of projects which will be funded through discussion, make simultaneous call for proposals, and accept proposals from scientists of their respective countries. Funding for the projects includes research and international exchange costs. For detailed requirements, please refer to the call for proposals launched on NSFC's website in 2013.

Netherlands

Netherlands Organization for Scientific Research (NWO)

According to the MOU between NSFC and the Netherlands Organization for Scientific Research (NWO), both sides support short-term academic studies, personnel exchange (usually less than 3 months) and bilateral academic workshops between Chinese and Dutch researchers.

(1) Exchange Program

Chinese and Dutch researchers shall submit applications for personnel exchanges and visits to their respective funding agencies 3 months in advance, and both organizations will make joint funding decisions based on respective evaluations. Applicants may submit their applications throughout the year.

(2) Bilateral Workshops

Chinese and Dutch researchers shall submit applications for bilateral workshops to their respective funding agencies 3 months in advance, and both organizations will make joint funding decisions based on respective evaluations. Applicants may submit their applications throughout the year.

(3) Joint Research Program

NSFC and NWO encourage scientists or research teams of both countries to carry out substantial joint research in areas of common interest. Funding for the projects includes research expenditure and international exchange costs. The call for proposals will be launched on NSFC's website in January 2013.

Hong Kong and Macao SARs and Taiwan Region of China

NSFC supports various forms of cooperation and exchange between the scientists inland and Hong Kong, Macao, and Taiwan in areas of mutual interests. By far, NSFC has signed scientific cooperation agreements with 6 science funding agencies in Hong Kong, Macao, and Taiwan, i.e., Research Grant Council of Hong Kong (RGC), Beijing-Hong Kong Academic Exchange Centre, Croucher Foundation, Macao Foundation, Macao Foundation for the Development of Science and Technology, and K. T. Li Foundation for the Development of Science and Technology. Cooperative activities jointly funded include academic conferences and joint research projects.

NSFC and the Research Grant Council of Hong Kong (RGC) will continue to fund joint research in areas of natural sciences. Priority funding areas include information sciences, biological sciences, new materials, marine and environmental sciences, medical sciences, and management sciences.

NSFC will continue to support various activities of scientific cooperation and exchange with substantial contents between inland and Macao scientists. Emphasis will be put on research projects related to environmental protection, urban development, and modernization of traditional Chinese medicine.

NSFC has been dedicating to encouraging and promoting scientific cooperation and exchange between scientists on both sides of the Taiwan Straits. In 2013, NSFC will continue to support cross-Straits academic workshops held by scientists from mainland China and Taiwan. NSFC will also fund substantial joint research projects in the area of photoelectric medical science according to the consensus reached with K. T. Li Foundation for the Development of Science and Technology.

Sino-German Center for Research Promotion

The Sino-German Center for Research Promotion, jointly founded by NSFC and DFG in October, 2000, aims at promoting scientific cooperation and exchanges among institutions of higher learning in China and Germany in the fields of natural sciences, biological sciences (including medical sciences), engineering sciences, and management sciences. NSFC and DFG provide respectively 50% of the Center's budget and the budget for 2013

will reach around 40 million RMB.

The budget of the Center is a special fund from NSFC and DFG. Scientists from universities and academic institutions of both China and Germany are able to apply for the funding. The funded projects by the Center will not be counted into the limitation on the number of projects one PI may hold according to NSFC regulations and require no on-going NSFC funded projects. However, applicants should be PIs or participants qualified with application for the funding from NSFC. German applicants should apply in line with DFG requirements. The Center accepts proposals submitted jointly by Chinese and German scientists at any time of the year, but applications have to be submitted at least 3 months prior to the implementation of the projects.

The Center currently provides funds for the following categories of activities:

1. Bilateral Academic Workshops

The center encourages Chinese and German scientists to have in-depth discussion on cutting edge issues in a certain scientific research area. The main purpose of the workshop, which can be held either in China or in Germany, is to foster joint research projects through discussion and exchange. Each workshop can have 15 participants from the sending party and 25 participants from the host party. Participants shall represent the academic level of the relative country and come from different universities or scientific institutions. However, organizer of the workshop can invite participants from the third countries as long as the number does not exceed 20% of the total number from the sending party. The Center provides funding for international travel expenses and local subsistence of all formal participants and other necessary costs for the workshop. The Center does not provide funding for participants from industries or administrative institutions or postgraduates, nor multilateral or international workshops. Participants from a third country can also be invited to attend the workshop, but the total number of them should be no more than 20% of participants from the sending side.

2. Joint Research Projects

The Center supports Chinese and German scientists to conduct joint research in research areas of common interest to NSFC and DFG. In principle, applicants of such projects shall have been funded by the Center in the past, usually through bilateral academic workshops sponsored by the Center and should be grantees of NSFC or DFG funded research projects. The areas of

cooperation shall be the priority areas of NSFC's funding. The fund for joint research project covers consumables, publishing and travel costs, as well as expenses related to the organization of meetings. The Center does not fund personnel salaries, for which German applicant may apply to DFG in the case of the requirement from German side. Funding for each project approved is usually 600,000-1,000,000 RMB (or the equivalent of Euros) for both Chinese and German scientists. The duration of the projects shall not exceed 3 years.

3. Sino-German Joint Research Group

The Center adopts flexible modules to funds Sino-German joint research groups for in-depth cooperation between Chinese and German scientists in clearly defined areas. Chinese and German scientists may apply for this program to plan for larger projects and establish necessary collaborative platform. Funding for this program covers costs for bilateral workshops, short-term exchange of visits, joint research, publications and consumables, etc. Applicants may apply for funding according to the funding standards of the Center, which does not provide staff salaries. Applicants must be participants of workshops or undertakers of projects funded by the Center so as to ensure both sides have already laid a foundation for cooperation and good communications and coordination. The funding period is 3 years and should not be prolonged.

4. Funding Schemes for Young Scientists

(1) Short-term Seminar

The scheme aims to introduce advanced scientific methods, techniques and their applications and provide training of specific issues in a certain area. The Center is bale to fund 4 to 6 senior scientists from both countries as lecturers and participants shall be mainly university undergraduates, graduates or young researchers. The number of participants is assessed according to specific conditions, such as equipment and infrastructure of the laboratory, but it shall not exceed 40 people in total. The seminar can be held either in Germany or in China and usually lasts at most 14 days, including two days for arrival and departure. The number of participants from sending party shall not exceed 15. Funding includes international travel, local accommodations as well as costs for the organization of the meeting and academic tours.

(2) Lindau Ph.D. Students Fund and Lindau Postdoc Scholarship

The Center, together with Lindau Nobel Laureates Foundation, funds 35 (including 10 in the field of economics) excellent Ph.D. students or postdocs

under the age of 35 to participate in the Nobel Laureate meeting in Lindau, Germany, followed by a week-long visit to the German research institutions. Candidates are selected throughout the country and must be recommended by their home institutions. The final approval list is decided by correspondence review and interviews by Chinese and German reviewers.

Grantees with Ph.D. degree of this program may apply the funding from the Center for a 6-month stay in Germany if they could get invitations from German research institutes or universities.

(3) Visit of German Excellent Young Researchers to China

This funding scheme launched by the Center for excellent young German scientists. During the trial period, grantees of DFG's Emmy Noether Program or other programs of equivalent quality, such as the principle investigators of SFB-excellent Young Research Groups, grantees of the ESF Starting Grants, Lichtenberg Professorship and principle investigators of Young Research Teams, can apply for the Program. The Center funds German young scientists to come to China for academic visits and research, and explore bilateral cooperation with their Chinese partners. The funding covers international and domestic travel costs and local subsistence in China. Short-term academic visits usually last less than 2 weeks and the grantees can visit at most 3 cities, of which the visits shall be already arranged by host institutions and hosts, during their stay in China.

(4) Young Scientists Forum

The program aims at providing an opportunity for Chinese and German young scientists to meet and discuss with the outstanding scientists in their own fields. The forum shall have a specific focused theme and can in principle invite at most 15 Chinese and 15 German young scientists under the age of 40, and several senior scientists depending on the scale of the forum. Funding includes international and domestic travel costs, local subsistence and other necessary costs for the forum.

5. Publication

The Center funds publication of proceedings, joint publications and special journals for scientific results of Chinese and German cooperation. Funding will be at most 5,000 Euros or 50,000 RMB. The Center does not fund publication of textbooks, translated works, etc.

6. Pre-Activity Planning

The Center invites application from qualified applicant who would like to

pay a visit to make preparation and plans for a meeting or a project, and to organize small-scale meetings to formulate such plans. The funding is provided for a short visit and only 1 person could be funded.

The Center accepts applications for the above-mentioned 6 categories of activities jointly submitted by scientists from Chinese and German universities and research institutions. Applications must be written in both Chinese and German or Chinese and English, and submitted 3 months before the start of the applied activities (8 copies in written form and one electronic copy for each application). The content of the Chinese and German (English) version applications shall be the same. In the applications, the content, theme, academic significance and academic purpose of the project, the participants, contact information, detailed schedule as well as specific costs and distribution shall be specified. Related personnel costs shall be listed according to the funding standard set by the Center on its website. The applications will be evaluated by Chinese and German reviewers and the Center will make final decision according to the evaluation results.

Specific requirements and relevant information are available on the website of the Center: <http://www.sinogermanscience.org.cn>.