

2010

NSFC

PART VI

Completion and Evaluation of NSFC Projects

6.1 Completion of General Program Projects

Completion of General Program Projects in 2010

Table 6.1

Projects completed				7,289
Achievements	Papers and publications	Invited speakers	International conferences	10,645
			Domestic conferences	11,531
		Papers and books	International journals	26,018
			Domestic journals	38,122
			Books	3,818
		Research results	Evaluated	931
	Patents		2,175	
	Results disseminated		476	
	Awards		International awards	119
		National awards	772	
		Ministerial or provincial awards	122	
	Talents fostered	Post-doc	1,794	
		Ph.D.	20,431	
Masters		35,003		

6.2 Completion of Young Scientists Fund Projects

Completion of Young Scientists Fund Projects in 2010

Table 6.2

Projects completed				2,303
Achievements	Papers and publications	Invited speakers	International conferences	3,041
			Domestic conferences	2,143
		Papers and books	International journals	6,602
			Domestic journals	9,561
			Books	1,187
		Research results	Evaluated	54
	Patents		493	
	Results disseminated		83	
	Awards		International awards	24
		National awards	195	
		Ministerial or provincial awards	46	
	Talents fostered	Post-doc	313	
		Ph.D.	3,193	
Masters		6,476		

6.3 Completion of Projects of the Fund for Less Developed Regions

Completion of Projects of the Fund for Less Developed Regions in 2010

Table 6.3

Projects completed				411
Achievements	Papers and publications	Invited speakers	International conferences	289
			Domestic conferences	507
		Papers and books	International journals	759
			Domestic journals	2,819
			Books	184
		Research results	Evaluated	25
	Patents		54	
	Results disseminated		17	
	Awards		International awards	2
		National awards	41	
		Ministerial or provincial awards	0	
	Talents fostered	Post-doc	21	
		Ph.D.	379	
Masters		2,288		

6.4 Completion of Key Program Projects

Completion of Key Program Projects in 2010

Table 6.4

Projects completed				303
Achievements	Papers and publications	Invited speakers	International conferences	2,144
			Domestic conferences	1,793
		Papers and books	International journals	5,794
			Domestic journals	4,105
			Books	340
		Research results	Evaluated	48
	Patents		739	
	Results disseminated		69	
	Awards		International awards	52
		National awards	155	
		Ministerial or provincial awards	33	
	Talents fostered	Post-doc	562	
		Ph.D.	3,446	
Masters		4,198		

6.5 Completion of Major Program Projects

In 2010, one major program project was completed and evaluated.

The Project entitled “**Studies on laws of temporal and spatial spreading of infectious disease using modern information technology**”, which took schistosomiasis and nephrotic syndrome hemorrhagic fever as main research object, provided the following result by using modern information technologies such as geo information system, remote sensing and mathematical model and computer simulation: the collection, integration and sharing of infectious disease related data; the in-depth investigation on spatial and temporal distribution characteristics of infectious disease and its relationship with geo environmental factors; the establishment of the model of spatial and temporal spreading of disease. The project has achieved significant progress in such aspects as the establishment of platform for integration and sharing of infectious disease related data, the establishment and verification of multi scale quantitative model and prediction model of spatial and temporal spreading of schistosomiasis, the laws of spreading and spatial and temporal distribution, and the eco epidemic studies and risk prediction of nephrotic syndrome hemorrhagic fever.

Evaluation of Major Program Projects in the Tenth Five-Year Plan Period in 2010

Table 6.5

(Unit: 10,000 yuan)

Project title	Funding	Papers and books			Awards			Patents	Results disseminated	Talents fostered		
		International Journals	Domestic Journals	Books	National	Ministerial or provincial	International			Post-doc	Ph.D.	Masters
Studies on laws of temporal and spatial spreading of infectious disease using modern information technology	800	89	70	5		3		2		7	31	30

6.6 Statistic of the NSFC's Support to the Winners of the National Natural Science Award

In 2010, there was no winner of the first-class prize of the National Natural Science Award, and there were 30 winners of the second-class prize. All winners obtained funding from NSFC before.

NSFC's Support to the Winners of the Second-Class Prizes of the National Natural Science Award

Table 6.6

	Project title	Principal investigators	Recommended by	Titles of NSFC projects	Number of grants
1	Symplectic theory and numerical method for computational mechanics based on simulation relations	Zhong Wansi, Zhang Hongwu, Yao Weian	Ministry of Education	Computational mechanics and engineering science computation number algebra	25
2	Multiplication principle of Schubert cluster	Duan Haibao	Chinese Academy of Sciences	Manifold topology	3
3	Deformation and fracture of electro magnetic solid	Fang Daining, Liu Jinxi, Liu Bin, Li Faxin, Huang Kezhi	China Association for Science and Technology	Studies on deformation and fracture of ferroelectric ceramics	44
4	Studies on quantitative electronic microscopic method and titanium oxide nano structures	Peng Lianmao, Chen Qing, Du Gaohui	Beijing Municipality	Plastic strain spinning theory and related mechanical problems	11
5	Size effect and peculiar property of atomic cluster and cluster assembly	Wang Gaunghou, Han Min, Zhao Jijun, Liu Fengqi, Wang Baolin	Ministry of Education	Studies on cluster structure, size effect and physical properties	23
6	Studies on the mechanism of non crystal alloy formation and development of new rare earth based non crystallized alloy bulk	Wang Weihua, Pan Mingxiang, Zhao Deqian, Bai Haiyang	Chinese Academy of Sciences	Studies on laws of formation, microstructure and physical properties of bulk non crystal materials	17
7	Discovery of DD-bar above threshold particle Ψ (3770) non DD-bar decay in BES-II and D-physics studies	Rong Gang, Zhang Dahua, Chen Jiangchuan, Ma Hailong	Chinese Academy of Sciences	Experimental studies on the impact of DD-bar on above threshold resonant state non DD-bar decay in BES-III	3
8	Studies on wave in artificial structures and related peculiar properties	Liu Zhengyou, Wang Guoping, Tan Zhijie, Zhang Wenbing, Zou Xianwu	Ministry of Education	Studies on elastic wave/acoustic wave meta materials	21

Table 6.6

	Project title	Principal investigators	Recommended by	Titles of NSFC projects	Number of grants
9	Basic research and exploration on applications of new types of rare earth hybrid and nano composite photoelectric functional materials	Zhang Hongjie, Wu Zhijian, Zhang Siyuan, Su Qiang	Jilin Province	Studies on the synthesis, luminescence and magnetic properties of new rare earth nano composite materials	21
10	Synthesis and construction of polymer composite photo functional materials with micro nano structural properties	Yang Bai, Zhang Junhu, Zhanchen, Shen Jiacong	Ministry of Education	Construction and function of ordered structures of nano micro polymers	31
11	Basic research on structural function relation and chemical engineering of ion liquid	Zhang Suojian, Wang Jianji, Zhang Xiangping, Lv Xingmei, Dong Kun	Chinese Academy of Sciences	Ion liquid and its applications in clean chemical engineering	19
12	Chemical synthesis of complex glycoconjugate with important bio activity	Yu Biao, Hui Yongzheng, Wang Laixi, Deng Shaojiang, Lu Shoufu	Shanghai Municipality	Total synthesis of four anti cancer active complex natural large ting compounds	13
13	Studies on the construction, self assembly principle and properties of inorganic functional materials with complex form and structures	Yu Shuhong, Yang Jian, Liu Biao, Guo Xiaohui, Cui Xianjin	Anhui Province	Studies on bionic constructed complex inorganic nano structural materials, self assembly principle, properties and applications	7
14	Molecular identification and assembly of cyclodextrin	Liu Yu, Zhang Hengyi, Chen Yong	Tianjin Municipality	Molecular identification and molecular assembly of functional bridge connected cyclodextrin	18
15	Studies on bio distinction in the Lopingian and end of Permian period in China	Jin Yuqian, Shen Shuzhong, Wang Xiangdong, Wang Yue, Cao Changqun	Jiangsu Province	Great bio distinction in the Lopingian and end of paleozoic era in the world	43
16	Cause of formation and identification of natural gas in China	Dai Jinxing, Zhang Shuichang, Hao Fang, Li Jian, Zhu Guangyou	China National Petroleum Corporation	Conditions of natural gas deposit formation in east China	6

Table 6.6

	Project title	Principal investigators	Recommended by	Titles of NSFC projects	Number of grants
17	Geochemical studies on the cause, sedimentation and weathering of Asian storms and paleon climate significance	Chen Jun, Zheng Hongbo, Lu Huayu, Ji Junfeng, Yang Jiedong	Ministry of Education	Geochemical studies on the cause, sedimentation and weathering process in loess plateau	26
18	Metamorphism isotope chronology and impact process of north China and south China plates	Li Shuguang, Liu Yican, Xiao Yilin, Sun Weidong, Li Qiuli	Anhui Province	Impact era of north China and south China plates: Sm-Nd isotope chronology method	18
19	Studies on new function of colloid cells	Duan Shumin, Ge Wuping, Zhang Jingming, Yang Yunlei, Wang Huikun	Shanghai Municipality	Studies on secretion and function of colloid cells	2
20	Functions of plant calmodulin and signal transduction mechanism	Sun Daye, Zhou Rengang, Ma Ligeng, Cui Sujuan, Li Bing	Hebei Province	Regulation function of Ca ²⁺ signal transduction path in plant cell proliferation and growth	18
21	Studies on signal transduction of cell apoptosis and virus resistant reactions	Shu Hongbing, Zhai Zhonghe, Chen Danying, Wu Yu, Lu Zhigang,	Ministry of Education	Signal transduction of cell apoptosis, existence and virus resistant reactions	12
22	Tau protein excess phosphorylation mechanism and its function in Alzheimer's disease neuron property change	Wang Jianzhi, Zhang Zhuohua, Wang Danling, Liu Shijie, Li Honglian	Ministry of Education	Coordination of protein kinase in degradation of neural fibril in Alzheimer's disease Studies on function and mechanism of Tau protein phosphorylation in apoptosis of neuron cell caused by periodic restart	14
23	New discovery of liver cancer metastasize mechanism and its significance	Qin Lunxiu, Ye Qinghai, Tang Zhaoyou, Guan Xinyuan, Jia Huliang	Ministry of Education	Chromosome 8p allele deficiency spectrum and its relationship with liver cancer metastasis	7

Table 6.6

	Project title	Principal investigators	Recommended by	Titles of NSFC projects	Number of grants
24	New mechanism of leukemia cell differentiation and apoptosis	Chen Guoqiang, Zhao Qian, Zhao Kewen, Liu Wei, Huang Ying	Shanghai Municipality	Chemical biological studies on information basis of leukemia cell differentiation and apoptosis	12
25	Studies on bio functional femto second laser optical imaging mechanisms	Luo Qingming, Zhao Yuandi, Zeng Shaoqun, Li Pengcheng, Zhang Zhihong	Hubei Province	Femto second laser bio medical micro imaging	31
26	Nonlinear output regulation problems and internal model principles	Huang Jie, Chen Zhiyong, Zhang Jifeng, Ye Xudong	Hong Kong Special Administrative Region	Design theory and applications of complex nonlinear system based on logic switch over control	13
27	New types of polymer photoelectric functional materials and luminescent devices	Cao Yong, Yang Wei, Peng Junbiao, Chen Junwu, Huang Fei	Guangdong Province	Basic scientific problems and realization of new high efficiency polymer solar photoelectric materials and devices	26
28	Studies on nano fluid energy transfer mechanism	Xuan Yimink, Li Qiang	Ministry of Education	Studies on meso scale nano fluid flow and energy transfer mechanism	10
29	Fine theory of extra large bridge oscillation and buffeting	Ge Yaojun, Zhu Ledong, Xiang Haifan	Shanghai Municipality	Large span arch bridge wind resistance failure and control of wind oscillations	10
30	Studies on composite structure, injection forming process and mechanical damage behavior of plastics	Xie Xiaolin, Li Dequn, Zhou Huamin, Zhou Xingping, Li Guoyao	Ministry of Education	Numerical simulation of morphologic evolution and product property in plastic injection forming process	13

6.7 Statistic of the NSFC's Support to the Winners of the National Award for Science and Technology Progress

In 2010, there were 31 winners of the first-class prize of the National Award for Science and Technology Progress. Among them, 9 winners within 16 projects for general category obtained funding from NSFC before.

NSFC's Support to the Winners of the First- Class Prizes of the National Award for Science and Technology Progress

Table 6.7

	Project title	Principal investigators	Recommended by	Titles of major NSFC projects	Number of grants
1	Dwarf male - sterile wheat and development and applications of high efficiency breeding methods	Liu Binghua, Zhai Huqu, Yangli, Sun Suyang, Zhou Yang, Wang Shan hong, Pu Zongjun, Wu Zhengqing, Sun Qixin, Gan Binjie, Yang Zhaosheng, Liu Hongwei, Men Fanhua, Zhao CHangping, Wei Yunliang	Ministry of Agriculture	Genetics, physiology and biochemical studies and its applications	39
2	Breeding of new types of rice stripe disease resistant high yield and quality round-grained rice	Wan Jianmin, Wang Cailin, Liu Chao, Li Aihong, Yao Lisheng, Yuan Caiyong, Xu Dayong, Sheng Shenglan, Niu Zhongyi, Jiang Ling, Zhou Chunhe, Deng Jianping, He Jinlong, Chen Liangming, Teng Youren	Ministry of Agriculture	Crone of HPLs cDNA of rice embryo related to storage property and analysis of its functions	8
3	Structural system, design and key technologies of construction building control of kilometer sized cable-stayed bridge	Zhang Xigang, Yu Qingzhong, Zhang Hong, Chen Airong, Yuan Hong, Wu Shouchang, Ouyang Xiaoyong, Ding Feng, Liu Xianpeng, Pei Minshan, Luo Chengbin, Ren Huixing, Li Qiao, Gong Weiming, Liu Yuqing	Ministry of Transport, China Civil Engineering Society	Theoretical studies on fine wind loadings on extra large span cable-stayed bridges	6
4	Therapy of intestinal malfunctions	Li Jieshou, Li Ning, Ren Jianan, Li Yousheng, Zhu Weiming, Li Qiurong, Li Yuanxin, Zhao Yunzhao, Wang Xinying, Jiang Zhiwei, Wang Xinbo, Peng Nanhai, Ni Yuanhong, Wang Gefei, Fan Chaogong	Jiangsu Province	Damage of intestinal mucosa, bacterial group unbalance and formation of bacterial translocation	16
5	R&D and integrated innovation of new technology of "four-in-one" for grain storage	Wu Zidan, Bian Ke, Xu Yong'an, He Zhenfang, Hao Wei, Guo Daolin, Song Wei, Tang Xuejun, Bu Chunhai, Cao Yang, Cai Jingping, Tao Cheng, Gao Sufen, Zhang Mingxue, Wang Dianxuan	State Administration of Grain	Relationship between starch particle surface protein and rice rheological properties	1

Table 6.7

	Project title	Principal investigators	Recommended by	Titles of major NSFC projects	Number of grants
6	Twin star program for earth space exploration	Liu Zhenxing, Zhang Yongwei, Wu Ji, Cai Jinrong, Zhu Guangwu, Sun Huixian, Bian Fengmei, Liao Fangyu, Meng Xin, Yuan Shigeng, Pu Zuyin, Li Xuzhi, Tao Zhigang, Shi Jiankui, Liu Yuanmo	Chinese Academy of Sciences	Multi spatial temporal physical process of earth space storms	41
7	Real time 3-D graphic platform BH-GRAPH	Zhao Qinqing, Hao Aimin, Wang Lili, Liang Xiaohui, Qi Yue, He Bing, Shen Xukun, Wu Wei, Li Shuai, Hou Fei, Gao Yujian, He Zhiying	Ministry of Education	Key technologies of virtual Olympic museum	9
8	Key technologies of tunnel construction of Qinling and Zhongnanshan road and operations and management	Qiao Huaiyu, Feng Xining, Yang Yusheng, Jiang Shuping, Huang Huiqi, Zhao Chaozhi, Xie Yongli, Wang Mingnian, Han Zhi, Yang Xiaowei, Zhang Jinzhu, Gao Chonglin, Si Junping, Zhao Chenyang, Yu Zheng	Ministry of Transport	Theoretical studies on tunnel earthquake resistance under the dynamic action of near fracture pulse type earthquakes	3
9	Basic research and exploration on applications of new types of rare earth hybrid and nano composite photoelectric functional materials	Li Guoying, Liao Yiwei, Zhang Jinliang, Liu Jixiang, Zhang Junhua, Zhang Hongyue, Xue Songgui, Zhao Xianrong, Zhang Yong, Zhai Jiarui, Jiang Enhui, Niu Yuguo, Li Wenxue, Wei Xiangyang, Wang Zhenyu	Ministry of Water Resources	Studies on the mechanism of river bed regeneration in lower ranges of Yellow River in water sand variation conditions and its counter measures	5