

PART V

Statistics of NSFC's Financial Allocation and Funding in 2012

5.1 Statistics of Financial Allocations for NSFC in 2012

Statistics of Financial Allocations for NSFC in 2012

Table 5-1

Unit: 10,000 yuan

National Natural Science Fund	1,647,600
National Science Fund for Distinguished Young Scholars	37,400
National Science Fund for Talent Training in Basic Research	15,000
Total	1,700,000

5.2 NSFC Funds for Projects Approved in 2012

Statistics of NSFC Funds for Projects Approved in 2012

Table 5 - 2

(Unit: 10,000yuan)

Type of project		Funds	
Research Projects	General Program	1,248,000	
	Key Program	156,700	
	Major Program	32,200	
	Major Research Plan	71,023	
	International (Regional) Joint Research Program	49,050.2	
Talent Projects	National Science Fund for Fostering Talents in Basic Science	24,510	
	Young Scientists Fund	337,500	
	Excellent Young Scientists Fund	40,000	
	National Science Fund for Distinguished Young Scholars	38,980	
	Fund for Creative Research Groups	New Projects	17,640
		Extended Projects	19,260
	Fund for Less Developed Regions	120,000	
	Joint Research Fund for Overseas Scholars and Scholars in Hong Kong and Macao Scholars	Two - year projects	2,340
		Extended Four - year projects	4,000
	Research Fund for International Young Scientist	1,890	
Projects for Research Environment Building	National Major Scientific Research Equipment	108,700	
	Fund for Fundamental Research of Scientific Instruments	15,000	
	Joint Fund	47,787	
	Fund for Key Science Journals	2,400	
	Fund for Excellent State Key Labs	740	
	Fund for Public Understanding of Science	500	
	Fund for Youth Activity	500	
	President and Directors' Funds and Other Special Funds	19,993	
	Fund for International (Regional) Cooperation and Exchange	6,872.511	
Total	1,827,450.00		

5.3 Funds for Research Programs

General Program Projects

Application and Funding Statistics of General Program Projects in 2012 (by Scientific Departments)

Table 5 - 3

(Unit: 10,000 yuan)

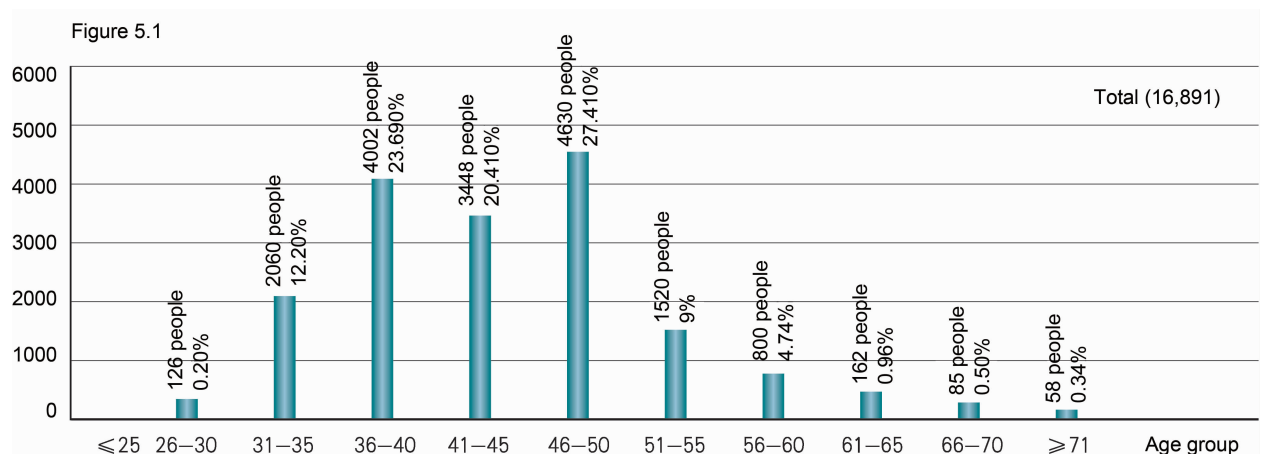
Scientific Department	Applications	Approved				Funding rate (%)
		Projects	Funding	Percentage of the total (%)	Average funding per project *	
Mathematical and Physical Sciences	5,635	1,515	117,320	9.40	77.44	26.89
Chemical Sciences	7,125	1,585	123,690	9.91	78.04	22.25
Life Sciences	13,240	2,706	203,880	16.34	75.34	20.44
Earth Sciences	6,471	1,668	133,430	10.69	79.99	25.78
Engineering and Materials Sciences	15,746	2,729	218,230	17.49	79.97	17.33
Information Sciences	9,880	1,724	132,820	10.64	77.04	17.45
Management Sciences	4,811	764	41,240	3.30	53.98	15.88
Health Sciences	24,870	4,200	277,390	22.23	66.05	16.89
Total	87,778	16,891	1,248,000	100	73.89	19.24

Note: average = funding/project; funding rate = No. of approved/ No. of proposals applied * 100.

Among them, there were 1732 applications for extended projects in the Young Scientists fund, of which 301 were approved with total funding of 227.986 million yuan.

There were 67,608 proposals from male PIs with 13,158 funded and 20,170 from female PIs with 3,733 funded.

Age Distribution of Principal Investigators of General Program Projects in 2012



Professional Structure of Research Teams for Funded Projects within General Program in 2012

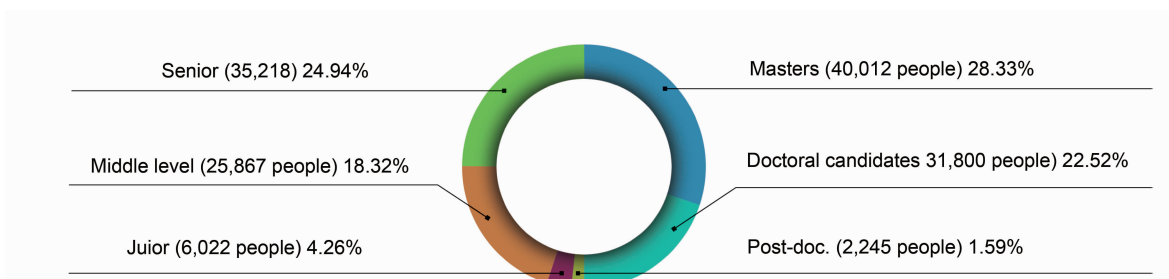


Figure 5.2

Statistics of General Program Projects by Region in 2012

Table 5-4

(Unit: 10,000 yuan)

Region	Projects	Funding		Region	Projects	Funding	
1	Beijing	3,488	263,635.2	17	Fujian	345	25,069
2	Shanghai	1,829	132,069	18	Henan	259	18,710
3	Jiangsu	1,569	116,910.2	19	Gansu	172	13,472
4	Guangdong	1,223	88,293.5	20	Hebei	177	12,948
5	Hubei	1,052	77,373.3	21	Shanxi	143	10,613
6	Zhejiang	920	67,315	22	Yunnan	104	7,562
7	Shaanxi	821	60,582.6	23	Xinjiang	43	3,182
8	Shandong	725	54,020.8	24	Jiangxi	37	2,803
9	Liaoning	634	46,489.4	25	Guangxi	34	2,666
10	Hunan	560	40,985.3	26	Guizhou	32	2,498
11	Sichuan	539	39,644.5	27	Hainan	14	940
12	Anhui	458	34,973.4	28	Qinghai	11	804
13	Heilongjiang	460	34,152	29	Inner Mongolia	11	801
14	Tianjin	456	33,010	30	Ningxia	3	198
15	Chongqing	435	30,651.8	31	Tibet	1	78
16	Jilin	336	25,550				

Key Program Projects

Application and Funding of Projects of Key Program Projects (by Scientific Department) in 2012

Table 5 - 5

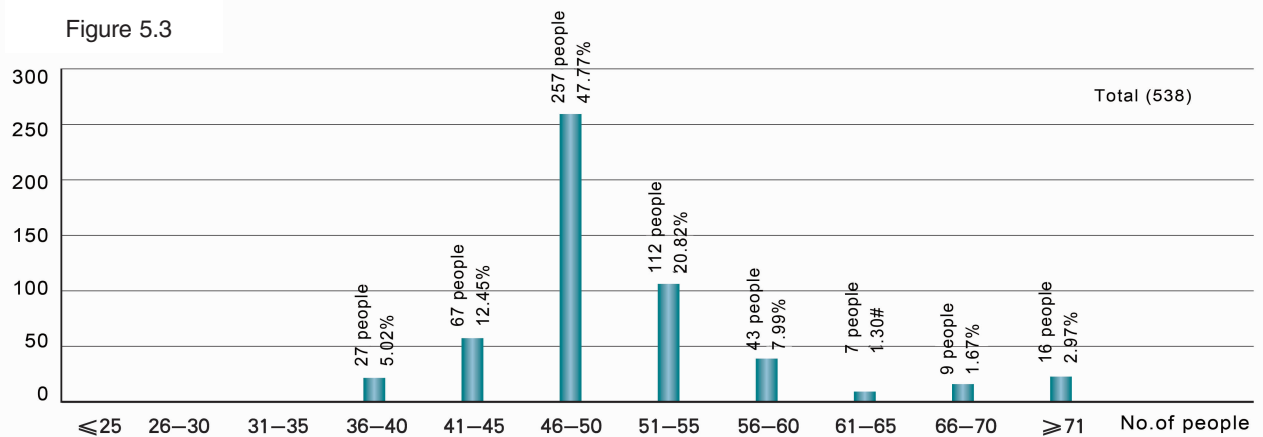
(Unit: 10,000 yuan)

Scientific Department	Applications	Approved				Funding rate (%)
		Projects	Funding	Percentage of the total (%)	Average funding per project *	
Mathematical and Physical Sciences	242	60	17,890	11.42	298.17	24.79
Chemical Sciences	240	55	16,470	10.51	299.45	22.92
Life Sciences	484	76	22,500	14.36	296.05	15.70
Earth Sciences	514	74	22,330	14.25	301.76	14.40
Engineering and Materials Sciences	369	82	23,940	15.28	291.95	22.22
Information Sciences	254	71	21,000	13.40	295.77	27.95
Management Sciences	139	30	7,390	4.72	246.33	21.58
Health Sciences	524	90	25,180	16.07	279.78	17.18
Total	2,766	538	156,700	100	291.26	19.45

Note: 2,502 proposals from male PIs, 459 granted and 264 from female PIs with 48 granted.

Age Distribution of Principal Investigators of Key Program Projects in 2012

Figure 5.3



Professional Structure of Members of Research Groups for Key Program Projects in 2012

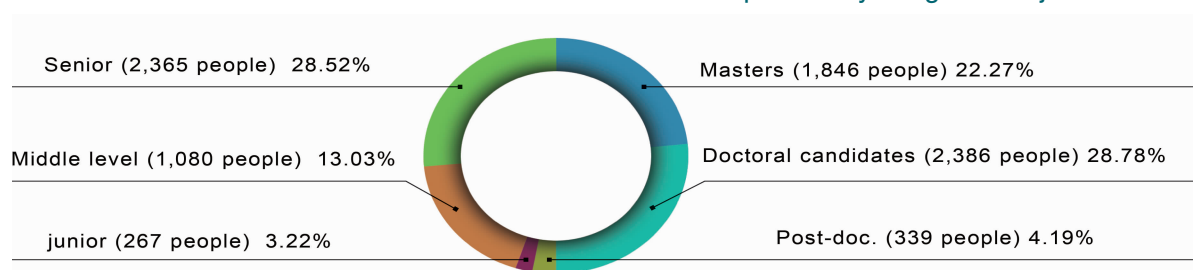


Figure 5.4

(Total 8,291)

Major Program

Funding of Major Program Projects in 2012

Table 5 – 6

(Unit: 10,000 yuan)

Name of project	PI	Professional title	Home institution	Funding amount
New method of high precision digital processing of complex surface based on conjugate mapping of flow field	Zheng Zhiming	Professor	Beihang University	2,000
Modeling, analysis and control of nonlinear dynamics of large expandable spatial structures	Hu Haiyan	Professor	Beijing Institute of Technology	2,000
Studies on some key basic issues in water science	Gao Hongjun	Researcher	Institute of Physics, CAS	2,000
Polarization and regulation in molecular solid	Gao Song	Professor	Peking University	1,800
Efficient synthesis of Polycyclic natural products with important drug value	Tu Yongqiang	Professor	Lanzhou University	1,800
Theoretical studies on low energy level excited state of electrons in molecular aggregate	Shuai Zhigang	Professor	Tsinghua University	1,800
Molecular mechanism of trait variation in process of crop polyploidy formation	Sun Qixin	Professor	China Agricultural University	1,500
Mechanism of impact of organism in land ecosystems on carbon – nitrogen – water coupled cycles	Yu Guiduan	Researcher	Institute of Geographic Sciences and Natural Resources Research, CAS	1,500
Physiology and genetic mechanism of adapting to extreme environment by deep sea microorganisms	Zhang Yuzhong	Professor	Shandong University	1,500
Desertification of Asian inland and evolution of west wind climate since Oligocene	An Zhisheng	Researcher	Institute of Earth Environment, CAS	2,000
Major biological events in Paleozoic ocean	Shen Shuzhong	Researcher	Nanjing Institute of Geology and paleontology, CAS	2,000
Science of preparing 2-D atomic crystal materials and explorations on its photoelectric properties	Xu Ningsheng	Professor	Sun Yat-sen University	1,500
Composite pollution process and principles of regulation of drinking water quality	Qiu Jiahui	Researcher	Research Center for Eco-Environmental Sciences, CAS	1,500
Basis of design and manufacturing of Minimally Invasive surgery devices	Wang Shuxin	Professor	Tianjin University	1,500
Basic theory and key technology of long wavelength inferred focal plane devices	Dai Ning	Researcher	Shanghai Institute of Technical Physics, CAS	2,000
Key devices and technology of optical fiber transducer network	Jiang Desheng	Professor	Wuhan University of Technology	2,000
Basic theory and key technology of high performance operation and control for complex industrial system	Sun Youxian	Professor	Zhejiang University	2,000
Discovery of animal pathogen and studies on its effect on inducing human diseases	Xu Jianguo	Researcher	Institute for Communicable Disease Control and Prevention, Chinese Center for Disease Control and Prevention	1,800
Total				32,200

Major Research Plan

Funding of Major Research Plan Projects in 2012

Table 5 - 7

(Unit: 10,000 yuan)

Title of major research plan	proposals	Proposals approved	Funding amount
Studies on scientific activities based on network	1	1	240
Studies on signal transmission based on small chemical molecular process	10	6	5,000
Studies on the Destruction of North China Craton	19	7	2,750
Dynamic disasters in major engineering projects	6	3	5,100
Key Basic Scientific Issues in Near Space Aircraft	43	33	3,840
Molecular mechanism of plant hormone	36	11	3,000
Basic research on high confidence software	9	2	4,000
Apparent genetic mechanism of cell programming and re-programming	56	13	2,500
Single Quantum State Exploration and its Interactions	34	16	4,300
Cognitive computation of visual and audio information	5	2	1,800
Structural Design and Controllable Preparation of Function Oriented Crystal-state Materials	93	16	2,070
Fundamental Research on Nano Manufacturing	20	4	1,000
Research on Unconventional Emergency Management	62	10	3,195
Integrated Research on the Eco-Hydrological Process of Heihe Basin	7	3	2,578
Fuel Proliferation and Transmutation in Advanced Nuclear Fission Energy	56	18	3,100
Controllable self assembly system and its functionalization	161	29	3,000
Deep Sea Process and Evolution of the South China Sea	20	12	3,500
The Regulation Network and Molecular Mechanisms of Malignant Transformation of Non-resolving Inflammation	79	32	4,100
Basic algorithm and computational modeling in high performance scientific computation	70	25	3,150
Multi genetic function and mechanism in micro evolution process	109	27	4,000
Fundamentals of emotional and memory neural loops	88	33	4,200
Photo electric conversion materials for energy use	220	32	4,600
Total	1,204	335	71,023

5.4 Funds for Talented Training Programs

Projects for Young Scientists Fund

Application and Funding of Projects of Young Scientists Fund in 2012 (by Scientific Department)

Table 5 – 8

(Unit: 10,000 yuan)

Scientific Department	Applications	Approved				Funding Rate (%)
		Projects	Funding	Percentage of the total (%)	funding per project (%)	
Mathematical and Physical Sciences	4,753	1,501	37,510	11.11	24.99	31.58
Chemical Sciences	4,687	1,271	31,780	9.42	25.00	27.12
Life Sciences	8,899	2,036	46,830	13.88	23.00	22.88
Earth Sciences	4,832	1,407	35,200	10.43	25.02	29.12
Engineering and Materials Sciences	9,926	2,505	62,610	18.55	24.99	25.24
Information Sciences	7,306	1,688	41,990	12.44	24.88	23.10
Management Sciences	3,376	607	12,150	3.60	20.02	17.98
Health Sciences	16,007	3,007	69,430	20.57	23.09	18.79
Total	59,786	14,022	337,500	100	24.07	23.45

Note: 31,298 proposals from male PIs with 8,234 granted; 28,488 from female with 5,788 granted.

Professional Structure of Research Teams for Young Scientists Fund in 2012

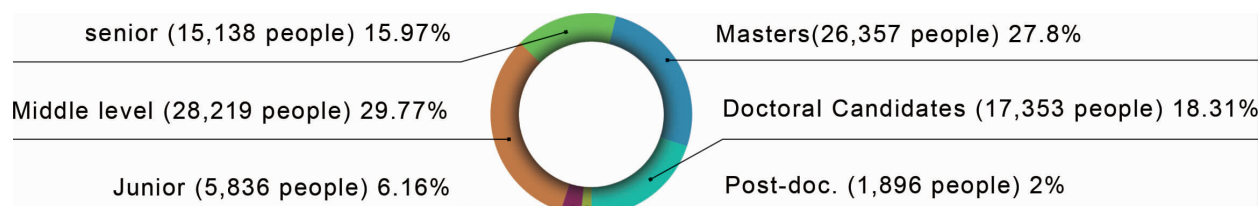


Figure 5.5

(Total 94,799)

Distribution of Projects for Young Scientists Fund by Region in 2012

Table 5 – 9

(Unit: 10,000 yuan)

Region	Projects	Funding	Region	Projects	Funding	Region	Projects	Funding
Beijing	2,402	58,059.10	Heilongjiang	443	10,669.50	Jiangxi	115	2,749.00
Jiangsu	1,399	33,844.40	Anhui	397	9,734.50	Xinjiang	62	1,509.00
Shanghai	1,322	31,370.50	Tianjin	406	9,721.00	Guangxi	58	1,401.00
Guangdong	935	22,208.50	Fujian	331	7,897.50	Guizhou	33	801.00
Hubei	870	20,813.50	Chongqing	310	7,312.50	Hainan	32	748.00
Shaanxi g	717	17,425.00	Jilin	295	7,195.50	Inner Mongolia	32	746.00
Zhejiang	721	17,175.50	Henna	287	6,921.00	Ningxia	20	479.00
Shandong	671	16,203.50	Gansu	207	5,277.00	Qinghai	9	213.00
Liaoning	562	13,476.00	Hebei	152	3,651.00	Xizang	2	46.00
Sichuan	508	12,366.00	Yunnan	136	3,324.00			
Hunan	465	11,145.50	Shanxi	123	3,017.00			
						Total	14,022	337,500.00

Projects of the Fund for Less Developed Regions

Application and Funding of Projects of the Fund for Less Developed Regions in 2012

Table 5 – 10

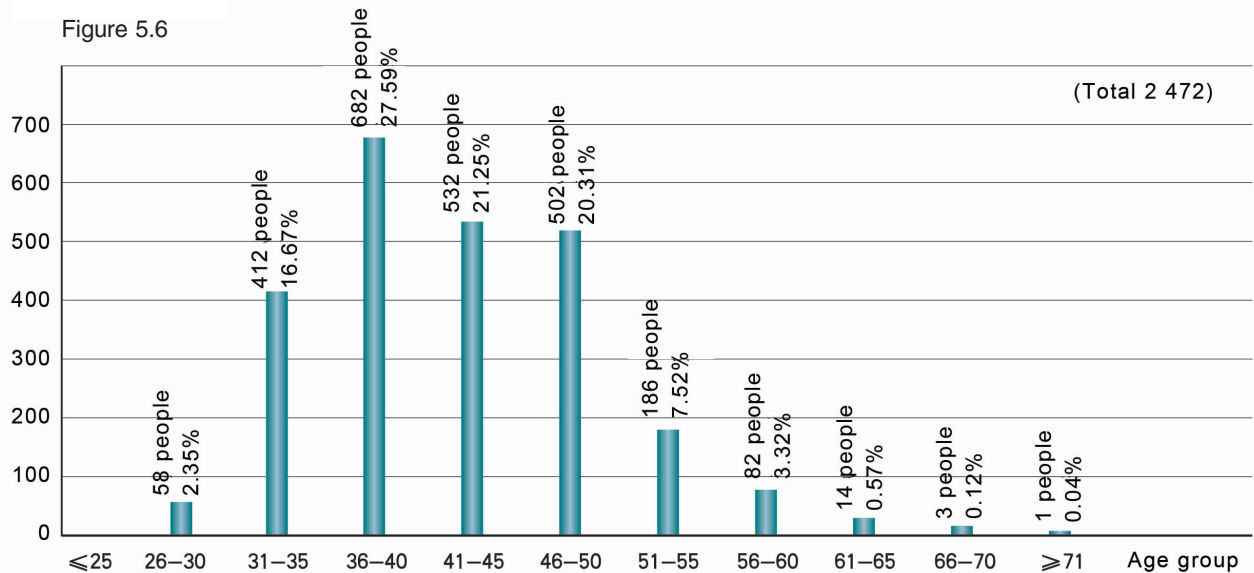
(Unit: 10,000 yuan)

Region	Applications	Approved				Funding rate (%)
		Projects	Funding	Percentage of the total (%)	Average	
Jiangxi	1,939	467	22,333.10	18.61	47.82	24.08
Yunnan	1,620	377	18,273.50	15.23	48.47	23.27
Xinjiang	1,689	340	16,619.10	13.85	48.88	20.13
Guangxi	1,657	338	16,465.00	13.72	48.71	20.40
Inner Mongolia	1,004	234	11,378.50	9.48	48.63	23.31
Gansu	1,008	213	10,487.70	8.74	49.24	21.13
Guizhou	639	140	6,853.00	5.71	48.95	21.91
Ningxia	597	123	5,967.50	4.97	48.52	20.60
Hainan	411	94	4,587.60	3.82	48.80	22.87
Jilin	243	47	2,310.00	1.92	49.15	19.34
Qinghai	202	34	1,610.00	1.34	47.35	16.83
Tibet	101	26	1,242.00	1.04	47.77	25.74
Hunan	89	21	1,033.00	0.86	49.19	23.60
Hubei	51	18	840.00	0.7	46.67	35.29
Sichuan	5	0	0	0	0	0
Others	4	0	0	0	0	0
Total	11,258	2472	120,000.00	100	48.54	21.96

Note: there were 7,721 male applicants with 1,728 granted and 3,537 female applicants with 744 granted.

Age Distribution of Principal Investigators of Projects of the Fund for Less Developed Regions in 2012

Figure 5.6



Professional Structure of Research Teams for the Fund of Less Developed Regions In 2012

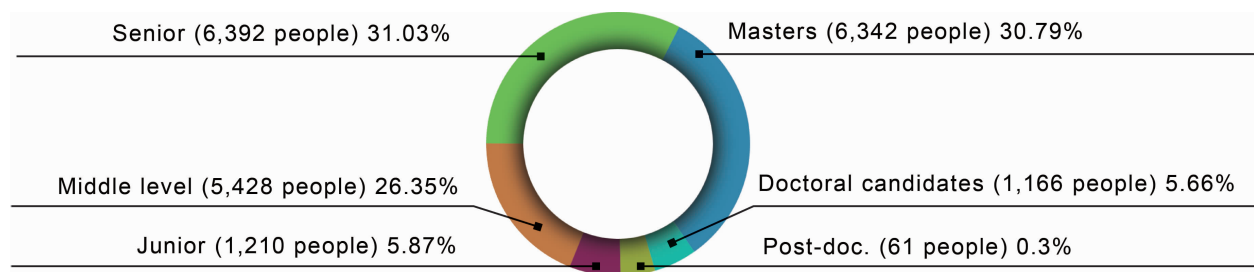


Figure 5.7

(Total 20,599)

Excellent Young Scientists Fund

As a new program in the talent-training programs, Excellent Young Scientists Fund effectively links with the Young Scientists Fund and the National Science Fund for Distinguished Young Scholars. It mainly supports young scientists who have 5 to 10 years research experience and have made certain research achievements with creative ideas and actively involved in frontiers of science to conduct basic research in directions of their own choice. The year 2012 was the first year of implementation of the Excellent Young Scientists Fund, and there were totally 3,587 young scientists submitting applications. After expert review, 400 of them were granted with a total funding of 400 million yuan.

Application and Funding of Projects of Excellent Young Scientists Fund in 2012 (by Scientific Department)

Table 5 – 11

(Unit: 10,000 yuan)

Scientific Department	Applications	Approved			Funding Rate (%)
		Projects	Funding	Percentage of the total (%)	
Mathematical and Physical Sciences	384	52	5,200	13.00	13.54
Chemical Sciences	500	57	5,700	14.25	11.40
Life Sciences	553	56	5,600	14.00	10.13
Earth Sciences	302	40	4,000	10.00	13.25
Engineering and Materials Sciences	646	73	7,300	18.25	11.30
Information Sciences	532	53	5,300	13.25	9.96
Management Sciences	163	15	1,500	3.75	9.20%
Health Sciences	507	54	5,400	13.50	10.65
Total	3,587	400	40,000	100	11.15

Note: there were 2,695 male applicants with 324 granted and 892 from female applicants with 76 granted.

National Science Fund for Distinguished Young Scholars

In 2012, a total of 1942 applications were received for National Science Fund for Distinguished Young Scholars. After review, 200 were funded with the funding of 2 million yuan for each for 4 years (1.4 million yuan for the awardees in mathematics and management sciences).

Awardees of the National Science Fund for Distinguished Young Scholars in 2012

Table 5 – 12

(Unit: 10,000 yuan)

	Name	Project name	Homeinstiution
1	Kong Xu	Formation and evolution of galaxies and composition of stellar population	University of Science and Technology of China
2	Fu Baohua	Algebraic geometry	Academy of Mathematics and Systems Science, CAS
3	Xu Xuejun	Finite element method and its applications	Academy of Mathematics and Systems Science, CAS
4	Leng Jinsong	Mechanical behavior of large deformation intelligent composite materials	Harbin Institute of Technology
5	Wu Jun	Continued fraction, Diophantine Approximations and fractal geometry	Huazhong University of Science and Technology
6	Wu Hong	Optical inferred properties of nearby galaxies	National Astronomical Observatories, CAS
7	Li Hailiang	Partial differential Equations	Capital Normal University
8	Yao Yugui	First principle of Berry Phase in solid materials	Beijing Institute of Technology
9	Zhao Yumin	Theory of structures of atomic nucleus	Shanghai Jiao Tong University
10	Xu Renxin	Pulsar and quark star	Peking University
11	Sheng Li	Condensed matter physics	Nanjing University
12	Huang Wen	Topological dynamical systems and ergodic theory	University of Science and Technology of China
13	Zhang Zhong	Mechanical design and experimental studies of nano composite materials	National Centre for Nano Science and Technology
14	Tai Renzhong	Soft X-ray microscopy	Shanghai Institute of Applied Physics, CAS
15	Hu Xiaoyong	Material and physics of photonic crystal micro nano photonic devices	Peking University
16	Tang Niansheng	Statistical inductions of biomedical data	Yunnan University
17	Tao Jianjun	Flow stability	Peking University

Table 5 – 12

(Unit: 10,000 yuan)

	Name	Project name	Homeinstiution
18	Cao Jun	Reactor neutrino physics	Institute of High Energy Physics, CAS
19	Yang Yadong	Particle physics	Central China Normal University
20	Chen Zhanghai	Spectrum studies and regulation of nonlinear phenomenon of quasi particle and atoms	Fudan University
21	Zhou Haijun	Statistical physics of self spinning glass and application of its interdisciplinary studies	Institute of Theoretical Physics, CAS
22	Tan Pingheng	Optical property of 2-D super thin laminar crystal materials	Institute of Semiconductors, CAS
23	Wen Guilin	Nonlinear theory , control and engineering application of non smooth system	Hunan University
24	Chen Xiaowei	Penetration and amour piecing dynamics	Institute of Overall Engineering, China Academy of Engineering Physics
25	Guo Jiandong	Artificial low dimensional structures of complex transit metal oxides	Institute of Physics, CAS
26	Zhang Lixin	Statistical limit theory and self adaptive design theory	Zhejiang University
27	Duan Huiling *	Non uniform materials and structural mechanics	Peking University
28	Guo Xuefeng	Physical chemistry	Peking University
29	Li Zichen	Polymer chemistry	Peking University
30	Liu Lei	Physical organic chemistry	Tsinghua University
31	Ge Wei	Fluidization technology and multiphase flow reaction engineering	Institute of Process Engineering, CAS
32	Niu Li	Electro analytic chemistry	Changchun Institute of Applied Chemistry, CAS
33	Wang Zhaohui	Chemistry of organic molecular functional materials	Institute of Chemistry, CAS
34	Wei Yongge	Chemistry of poly acid and its organic derivatives	Tsinghua University
35	Wang Xiangke	Environmental radioactive chemistry	Hefei Institutes of Physical Science, CAS
36	Wei Min *	Assembly chemistry of organic super molecular Intercalation	Beijing University of Chemical Technology
37	Zhang Wen	Ferroelectric and dielectric compound	Southeast University

Table 5 – 12

(Unit: 10,000 yuan)

	Name	Project name	Homeinstiuiion
38	Zhang Jiepeng	Porous material of coordination polymer	Sun Yat – sen University
39	Chen Ling *	Inorganic solid materials	Fujian Institute of Research on the Structure of Matter, CAS
40	Chen Peng	Chemical biology	Peking University
41	Chen Huanwen	Direct mass spectroscopy analysis method for complex base samples	East China Institute of Technology
42	Li Weixue	Theory of surface catalyst	Dalian Institute of Chemical Physics, CAS
43	Zhou Yongfeng	Self assembly of hyper branched polymer and cell simulation chemistry	Shanghai Jiao Tong University
44	Chen Junwu	Structural design and properties of new types of polymer materials related to interface modification of polymer photoelectric devices	South China University of Technology
45	Liu Yi	Bio thermal chemistry	Wuhan University
46	Lu Anhui	Fundamentals of physical chemistry of charcoal materials	Dalian University of Technology
47	Ma Junan	Asymmetric controlled synthesis of fluorine containing organic compound	Tianjin University
48	Ouyang Gangfeng	Environmental analytic chemistry	Sun Yat-sen University
49	Wang Haihui	Inorganic membrane separation and membrane catalysis	South China University of Technology
50	Yan Xiaomei *	Biochemical analysis and bio sensing	Xiamen University
51	Hu Shuiming	High precision atomic and molecular spectroscopy	University of Science and Technology of China
52	Huang He	Bio chemical engineering	Nanjing University of Technology
53	Luo Kaifu	Dynamic theory and simulation of polymer systems	University of Science and Technology of China
54	Peng Huisheng	Basic research on the application of new types of composite materials of directional carbon nano cube/polymer in energy field	Fudan University
55	Zhu Dongqiang	Interface process of organic contaminates in water environment	Nanjing University
56	Sun Junqi	Layer – by – layer assembled membrane of polymers	Jilin University

Table 5 – 12

(Unit: 10,000 yuan)

	Name	Project name	Homeinstiuiou
57	Chen Guangwen	Micro chemical engineering and technology	Dalian Institute of Chemical Physics, CAS
58	Liu Guosheng	Organic chemistry of metals	Shanghai Institute of Organic Chemistry, CAS
59	Shao Feng	Infection of pathogenic bacteria and natural immunology of host	National Institute of Biological Sciences, Beijing
60	Lai Jinsheng	Corn genome and molecular breeding	China Agricultural University
61	Hu Junjie	Structure and function of bio membrane	Nankai University
62	Hu Hailan *	System neurobiology	Shanghai Institutes for Biological Sciences, CAS
63	He Xionglei	Comparative genome and evolution	Sun Yat – sen University
64	Li Jinsong	Cell re – programming and embryo development	Shanghai Institutes for Biological Sciences, CAS
65	Zhang Hong	Developmental biology	Institute of Biophysics, CAS
66	Chen Fan	Fundamentals of agronomy and crop science	Institute of Genetics and Developmental Biology, CAS
67	Huang Sanwen	Vegetable germplasm resources and genetics and breeding	Institute of Vegetables and Flowers, Chinese Academy of Agricultural Sciences
68	Wu Xiaolei	Terrestrial environmental microbiology	Peking University
69	Wu Qinglong	Ecology of water microbe	Nanjing Institute of Geography and Limnology, CAS
70	Liu Jianfeng	Cell physiology	Huazhong University of Science and Technology
71	Wang Futi	Stable metabolism of trace element	Shanghai Institutes for Biological Sciences, CAS
72	Qi Yijun	Genetic expression regulation and epigenetics	Tsinghua University
73	Hui Lijian	Cell biology	Shanghai Institutes for Biological Sciences, CAS
74	Wang Shuo	Food science	Tianjin University of Science and Technology
75	Wang Yuanchao	Plant oomycete disease	Nanjing Agricultural University
76	Tang Chun	NMR of bio macromolecules	Wuhan Institute of Physics and Mathematics, CAS

Table 5-12

(Unit: 10,000 yuan)

	Name	Project name	Homeinstiution
77	Liang Xingjie	Nano bio materials	National Centre for Nano Science and Technology
78	Chen Chang *	Physiology and integrative biology (cell metabolism and free radicals)	Institute of Biophysics, CAS
79	Xiang Wensheng	Pesticide of microbe and natural products	Northeast Agricultural University
80	Wang Chengshu	Pathogenesis of fungus and genetic modification	Shanghai Institutes for Biological Sciences, CAS
81	Xu Feng *	Basic research on high value use of bio matter in agriculture and forestry	Beijing Forestry University
82	Yang Ye	New chemical and bio physical technology of imaging and control of cell and molecular process	Huazhong University of Technology
83	Yao Bin	Molecular biology of feed enzymes	Feed Research Institute, CAAS
84	Xiao Shaobo	Animal epidemiology	Huazhong Agricultural University
85	Yang Shuhua *	Physiology of plant resistance	China Agricultural University
86	Qiu Rongliang	Restoration of heavy metal contaminated soil	Sun Yat-sen University
87	Wang Xunming	Sand landscape and desertification	Cold and Arid Regions Environmental and Engineering Research Institute, CAS
88	Jin Zhangdong	Chemical erosion of lake basin	Institute of Earth Environment, CAS
89	Chen Ling *	Seismology	The Institute of Geology and Geophysics, CAS
90	Wang Zifa	Numerical simulation and forecast of atmospheric environment	Institute of Atmospheric Physics, CAS
91	Liu Yun	Computational geochemistry	Institute of Geochemistry, CAS
92	Yu Zhiqiang	Environmental geochemistry	Guangzhou Institute of Geochemistry, CAS
93	Li Tao	Space physics	University of Science and Technology of China
94	Yang Shouye	Geochemistry of river and sea sediments	Tongji University
95	Sun Hongwen *	Environmental geochemistry	Nankai University
96	Dong Yunpeng	Tectonic evolution and dynamics of orogenic belt	Northwest University
97	Kang Shichang	Cryosphere geography	Institute of Tibetan Plateau Research

Table 5 – 12

(Unit: 10,000 yuan)

	Name	Project name	Homeinstiuiou
98	Zou Jianwen	Carbon nitrogen cycle of soil and global changes	Nanjing Agricultural University
99	Zhu Dicheng	Petrology	China University of Geosciences
100	Wu Chunming	Metamorphic geology and Precambrian geology	Graduate University of CAS
101	Xu Qiang	Prediction and evaluation and prevention of geological disasters	Chengdu University of Technology
102	Xia Qunke	Water in upper mantle	University of Science and Technology of China
103	Lin Wei	structure geology	The Institute of Geology and Geophysics, CAS
104	Liu Jing *	structure geology – active tectonics and structural landform	Institute of Geology, China Earthquake Administration
105	Tian Wenshou	Interaction of atmospheric chemistry and climate and mass exchange between stratosphere and troposphere	Lanzhou University
106	Wu Hongbin	Organic/polymer photoelectric devices of	South China University of Technology
107	Zheng Yufeng	New types of biomedical metal materials	Peking University
108	Zhong Zhiyuan	Biomedical polymers	Soochow University
109	Chen Ping *	Studies on hydrogen storing materials	Dalian Institute of Chemical Physics, CAS
110	Lu Xiaomei *	Preparation and effect of ferroelectric low dimensional materials	Nanjing University
111	Yu Yanlei *	Light response crystal polymer materials	Fudan University
112	Zhao Changsheng	Antithrombin functional polymer membrane materials	Sichuan University
113	Shuai Xintao	Biomedical polymer materials	Sun Yat – sen University
114	Sun Zhimei *	Semiconductor materials	Xiamen University
115	Li Zhibo	Intelligent polymer materials	Institute of Chemistry, CAS
116	Chen Hangrong *	Nano composite mesoporous materials	Shanghai Institute of Ceramics, CAS
117	Jia Dechang	Advanced ceramics and ceramic based composite materials	Harbin Institute of Technology
118	Guo Yuguo	Energy conversion and storage materials	Institute of Chemistry, CAS

Table 5 – 12

(Unit: 10,000 yuan)

	Name	Project name	Homeinstiution
119	Zhao Yonghao	Mechanical properties and mechanism of deformation of nano metal materials	Nanjing University of Science and Technology
120	Li Liyi	Special electrical engineering system	Harbin Institute of Technology
121	Liu Jiaping	Key issues in properties and extended service of cement based materials	Jiangsu Research Institute of Building Science
122	Wang Jinshu *	Powder metallurgy and engineering	Beijing University of Technology
123	Yuan Shenfang *	Intelligent aviation structures and health monitoring	Nanjing University of Aeronautics and Astronautics
124	Li Qiang	Basic research on thermal management of electronic devices	Nanjing University of Science and Technology
125	Liu Huijuan *	Environmental engineering	Research Center for Eco – Environmental Sciences, CAS
126	Wang Pifang *	Water environment protection and eco – restoration	Hohai University
127	Chen Weizhong	Rock mechanics and rock engineering	Shandong University
128	Chen Renpeng	Long term mechanical behavior of embankment foundation of highway	Zhejiang University
129	Liang Weiguo	Theory and technology of in situ solution mining	Taiyuan University of Technology
130	Sheng Zhu	Basic research on silicon carbide electric and electronic devices	Zhejiang University
131	Chen Xuefeng	Dynamic monitoring, diagnosis and maintenance of mechanical systems	Xī'an Jiaotong University
132	Wang Liping	Advanced manufacturing equipment and its control	Tsinghua University
133	Li Yongping *	Management of basin water resources	North China Electric Power University
134	Wei Jinjia	Two phase flow and heat transfer	Xī'an Jiaotong University
135	Li Xiaosen	Physical property and mechanism of decomposition of natural gas hydrates	Guangzhou Institute of Energy Conversion, CAS
136	Wang Aijie *	Targeted bio conversion and recycling of contaminants	Harbin Institute of Technology
137	Tan Yiqiu *	Structure and materials of asphalt road surface	Harbin Institute of Technology
138	Liu Jun	Micro/nano mechanical systems	North University of China
139	Zhu Jigui	Theory, method and technology of mechanical tests	Tianjin University

Table 5 – 12

(Unit: 10,000 yuan)

	Name	Project name	Homeinstiuion
140	Lu Xioanggang	Basic theories of new technology of controlled oxygen flow in metallurgical process	Shanghai University
141	Li Dianqing	Rock mechanics and rock engineering	Wuhan University
142	Yang Huaming	Basic theory and applications of fine processing of mineral resources	Central South University
143	Long Teng	New system of imaging radar and technology of real time information processing	Beijing Institute of Technology
144	Duan Zhisheng	Control and application of complex coupled systems	Peking University
145	Wang Xinqiang	InN based nitride semiconductor materials and devices	Peking University
146	Lu Yanqing	Interaction of light with linear nonlinear artificial optical microstructures and integration of functions	Nanjing University
147	Xiang Libin	Computational spectrum imaging technology	Academy of Opto-electronics, CAS
148	Wang Cong	Intelligent control and defined learning	South China University of Technology
149	Wang Kaiyou	Ferromagnetic semiconductors and carbon based self spinning electronics	Institute of Semiconductors, CAS
150	Yu Weiyong	Preparation of semiconductor nano materials and quantum point photoelectric devices	Jilin University
151	Guo Hong	Theory, method and technology of quantum space communication	Peking University
152	Xu Lijun	Theory and key technology of online monitor of complex flow systems	Beihang University
153	Guan Baiou	Optical fiber transducer	Jinan University
154	Zhou Jie	Pattern recognition and visual monitor	Tsinghua University
155	Xu Changsheng	Analysis and searching of multimedia contents	Institute of Automation, CAS
156	Ren Fengyuan	Management and control of network flow	Tsinghua University
157	Wang Qionghua *	Theory and devices of 3-D display	Sichuan University
158	Wang Xingwei	New technology of router, protection and grooming of network	Northeastern University
159	Jiang Anquan	High density ferroelectric diode storage and advanced testing techniques	Fudan University
160	Qiao Junfei	Modeling, control and optimization of urban sewage treatment process	Beijing University of Technology

Table 5-12

(Unit: 10,000 yuan)

	Name	Project name	Homeinstiution
161	Guo Lixin	Theoretical modeling and analysis of characteristics of composite electromagnetic scattering of target in land-sea environment	Xidian University
162	Hou Zengguang	Intelligent control of robot system	Institute of Automation, CAS
163	Huang Yunfeng	Quantum information	University of Science and Technology of China
164	Che Wenquan *	Theory and technology of new types of microwave circuits	Nanjing University of Science and Technology
165	Zhang Lu	Software analysis and test	Peking University
166	Dong Yi	Transmission and control of optical information	Shanghai Jiao Tong University
167	Xia Yuanqing	Basic theory and method of complex system control of multi source information	Beijing Institute of Technology
168	Li Keqiu	Network of data center	Dalian University of Technology
169	Xu Xin	Corporate information management - application and impact of information technology in corporate management	Tsinghua University
170	Ye Qiang	Studies on e-commerce in social media environment	Harbin Institute of Technology
171	Yu Yugang	Industrial engineering management	University of Science and Technology of China
172	Deng Xiangzheng	Management and policy of land utilization	Institute of Geographic Sciences and Natural Resources Research, CAS
173	He Zhen	Quality management and quality engineering	Tianjin University
174	Wang Fan	Optimization and management of service resources	Sun Yat-sen University
175	Zheng Xiaoping	Public security and emergency management	Beijing University of Chemical Technology
176	Kong Wei *	Steady regulation of vascular functions and cardiovascular diseases	Peking University
177	Tao Ling *	Fundamentals and clinical studies on control of ischemic heart diseases	The Forth Military Medical University of PLA
178	Li Xiaoming	Basic research on mental diseases	Zhejiang University
179	Chen Xiang	Molecular mechanism of normal skin and skin diseases	Central South University
180	Hu Youhong	Drug chemistry	Shanghai Institute of Materia Medica, CAS

Table 5 – 12

(Unit: 10,000 yuan)

	Name	Project name	Homeinstiuion
181	Lin Houwen	Chemistry of natural drugs	The Second Military Medical University of PLA
182	Niw Jing *	Molecular mechanism and control strategies for kidney fibrosis	Southern Medical University
183	Jiang Xinquan	Stomatology	Shanghai Jiao Tong University
184	Xie Dan	Oncology (digestive system tumor)	Sun Yat-sen University
185	Luo Xiaodong	Chemistry of natural drugs	Kunming Institute of Botany, CAS
186	Cui Daxiang	Medical imaging and biomedical engineering	Shanghai Jiao Tong University
187	Zhou Jian	Early diagnosis and mechanism of metastasis and reoccurrence and control of liver cancer	Fudan University
188	Nie Yongzhan	Metabolic diseases of liver	The Forth Military Medical University of PLA
189	Shi Jie *	Neuro mechanism and control of drug addiction	Peking University
190	Huang Canhua	Tumor proteomics	Sichuan University
191	Sun Beicheng	Chronic inflammation and liver cancer	Nanjing Medical University
192	Huang Bo	Tumor immunology	Institute of Basic Medical Sciences (IBMS) of Chinese Academy of Medical Sciences (CAMS)
193	Wang Jianwei	Medical virology	Institute of Pathogen Biology, CAMS
194	Li Shao	New technology and new method of TCM studies	Tsinghua University
195	Dai Zhifei	Medical ultrasonic and acoustic contrast agents	Peking University
196	Hu Zhibin	Epidemiology	Nanjing Medical University
197	Zhang Yunwu	Cell and molecular mechanism of Alzheimer disease	Xiamen University
198	Wang Hongmei *	Pregnancy and pregnancy related diseases	Institute of Zoology, CAS
199	He Yong	Connectomics studies based on neural imaging	Beijing Normal University
200	Lei Qunying *	Molecular biology of tumor	Fudan University

Note: 269 were awarded among 1,698 male applicants and 31 among 244 female applicants.

*female

Joint Research Fund for Overseas Chinese Scholars and Scholars in Hong Kong and Macao

The Joint Research Fund for Overseas Chinese Scholars and Scholars in Hong Kong and Macao adopts "2+4" funding model, which means that those 2-year projects with substantial cooperation and clear potential for future development will be continuously funded for another 4 years.

1. Two-year project

In 2012, NSFC received 393 applications for 2-year project and, after review, funded 117 projects, with an average funding of 23.4 million yuan. Please see Table 5.13 for details.

Joint Research Fund for Overseas Chinese Scholars and Scholars in Hong Kong and Macao in 2012 (two-year projects)

Table 5 – 13 (unit: 10,000 yuan)

Department	Applications accepted	Approved	
		Number of projects	Funding amount
Department of Mathematical and Physical Sciences	44	13	260
Department of Chemical Sciences	27	9	180
Department of Life Sciences	60	23	460
Department of Earth Sciences	28	8	160
Department of Engineering and Material Sciences	57	16	320
Department of Information Sciences	68	19	380
Department of Management Sciences	23	5	100
Department of Health Sciences	86	24	480
Total	393	117	2,340

2. Extension to four year project

In 2012, NSFC received 49 applications for extension to 4-year project and, after review, funded 20 projects, with an average funding of 40 million yuan. Please see Table 5.14 for details

Joint Research Fund for Overseas Chinese Scholars and Scholars in Hong Kong and Macao in 2012 (extension to four-year projects)

Table 5 – 14 (Unit: 10,000 yuan)

Department	Applications accepted	Approved	
		Number of projects	Funding amount
Department of Mathematical and Physical Sciences	6	2	400
Department of Chemical Sciences	4	2	400
Department of Life Sciences	11	5	1,000
Department of Earth Sciences	3	1	200
Department of Engineering and Material Sciences	6	3	600
Department of Information Sciences	7	3	600
Department of Management Sciences	3	1	200
Department of Health Sciences	9	3	600
Total	49	20	4,000

Note: there were 388 male applicants with 123 granted and 54 female applicants with 14 granted.

Science Fund for Creative Research Groups

1. New creative research groups

In 2012, relevant ministries and commissions recommended 87 candidates for the Science Fund for Creative Research Groups. After review, 30 groups were supported, with a total funding of 176.40 million yuan. Please see the following table for details.

Awardees of the Science Fund for Creative Research Groups in 2012

Table 5 – 15

(Unit: 10,000 yuan)

	Group Leader	Research direction	Home institution	Funding
1	Li Anmin	Mathematical physics	Sichuan University	420
2	Hu Haiyan	Dynamic mechanical behavior of complex media/structures	Beijing Institute of Technology	600
3	Pan Jianwei	Quantum information physics and technology based on photon and cold atoms	University of Science and Technology of China	600
4	Wang Xinnian	High energy nuclear physics	Central China Normal University	600
5	Cao Rong	Hybrid inorganic/organic functional materials	Fujian Institute of Research on the Structure of Matter, CAS	600
6	Fu Hongbing	Design, preparation and physical chemical properties of new types of optical functional materials	Institute of Chemistry, CAS	600
7	Tan Weihong	Basic research of analytical chemistry on chemical bio sensors	Hunan University	600
8	He Kebin	Chemistry of multi media composite pollution and control	Tsinghua University	600
9	Zhou Jinqiu	Mechanism of covalent modification of chromatin in epigenetic regulation (epigenetic)	Shanghai Institutes for Biological Sciences, CAS	600
10	Chen Heping	Studies on cell calcium signals	Peking University	600
11	Dong Qi	Cognitive neural mechanism of learning	Beijing Normal University	600
12	Qian Qian	Genetic breeding of rice	China National Rice Research Institute	600
13	Zhan Renbin	Important bio events in early palaeozoic era and its background mechanism	Nanjing Institute of Geology and paleontology, CAS	600
14	Yang Jinhui	Limitation of micro region isotope in early evolution of earth	The Institute of Geology and Geophysics, CAS	600
15	Yi Fan	Remote sensing exploration and numerical modeling of medium and high level atmosphere	Wuhan University	600
16	Zhao Meixun	Ocean organic bio geochemistry	Ocean University of China	600
17	Li Hejun	Physical chemical process of preparation and service of super high temperature composite materials for aerospace	Northwestern Polytechnical University	600

Table 5 – 15

(Unit: 10,000 yuan)

	Group Leader	Research direction	Home institution	Funding
18	Yang Wantai	Advanced preparation and functionalization of high performance alkenyl polymer materials	Beijing University of Chemical Technology	600
19	Gao Deli	Basic research on drilling and completion of complex oil and gas wells	China University of Petroleum, Beijing Campus	600
20	Tan Jianrong	Basic research on electromechanical fluid systems	Zhejiang University	600
21	Rong Mingzhe	Insulation and discharge of electric equipment	Xi'an Jiaotong University	600
22	Zhang Wenjun	Theory and key technology of digital media communications	Shanghai Jiao Tong University	600
23	You Xiaohu	Basic theory and key technologies of B4G mobile communications	Southeast University	600
24	Guan Xinping	Control theory and method design, control and optimization of network system	Shanghai Jiao Tong University	600
25	Liu Ming	Basic research on new types of microelectronic device integration	Institute of Microelectronics, CAS	600
26	Chen Shou	Financial innovation and risk management	Hunan University	420
27	Chen Yihan	Mechanism of arrhythmia	Tongji University	600
28	Lu Lin	Mechanism of neural plasticity of mental diseases	Peking University	600
29	Duan Shumin	Molecular mechanism of synapse and neural loop regulation and its functions in mental diseases	Zhejiang University	600
30	Zhang Xuemin	Tumor biology	Academy of Military Medical Sciences	600

2. Extended funding for creative research groups of 3-year funding

After evaluation, all 28 creative research groups of 3-year funding obtained the first extension of funding of "3+6", with a total funding of 164.40 million yuan. Please see the following table for details.

Awardees of Extended Funding for Creative Research Groups of 3 Years Funding

Table 5 – 16

(Unit: 10,000 yuan)

	Academic leader	Research direction	Home institution	Funding
1	Peng Shige	Financial mathematics -- G-risk metrics, backward random analysis and computation in financial risk control	Shandong University	420
2	hen Shiyi	Mechanism, model and experimental studies of compressible turbulent flows	Peking University	600
3	Yan Yihua	Key scientific problems in solar eruption activities	National Astronomical Observatories	600
4	Zhao Hongwei	Research on frontier problems of heavy ion accelerator physics and technology	Institute of Modern Physics, CAS	600
5	Li Yadong	Controlled synthesis, structure, property and application of functional oriented nano materials	Tsinghua University	600
6	Zhang Hongjie	Research and application of new types of rare earth functional materials	Changchun Institute of Applied Chemistry, CAS	600
7	Yang Bai	Assembly system of photoelectric functional super molecules	Jilin University	600
8	Liu Maili	Bio MNR spectroscopy	Wuhan Institute of Physics and Mathematics, CAS	600
9	Shu Hongbing	Natural immunology of virus resistance of cells	Wuhan University	600
10	Deng Xiuxin	Resources of horticulture germplasm and genetic modifications	Huazhong Agricultural University	600
11	Yang Weicai	Plant reproduction and developmental biology	Institute of Genetics and Developmental Biology, CAS	600
12	Chen Hua-guang	Regulation and interactions of TGF- β and Wnt signals in early development of embryo	Tsinghua University	600
13	Lin Shencai	Transduction and regulation of signals related to tumor growth and inhibition	Xiamen University	600
14	Wang Hongyang	Molecular regulation of inflammation promoting cell carcinogenesis	The Second Military Medical University of PLA	600
15	Xu Zhiqin	Continental dynamics of Tibetan plateau and impact on resources and environment	Institute of Geology, Chinese Academy of Geological Sciences	600
16	Zheng Yongfei	Continental subduction chemical geo dynamics	University of Science and Technology of China	600

Table 5 – 16

(Unit: 10,000 yuan)

	Academic leader	Research direction	Home institution	Funding
17	Zhang Renhe	Mechanism of variation of subtropical monsoon in east Asia	Chinese Academy of Meteorological Sciences	600
18	Wu Lixin	Mechanism of evolution of sea dynamic process and its impact on climate change	Ocean University of China	600
19	Teng Bin	Impact of sea environment disasters and protection of structures	Dalian University of Technology	600
20	Zhao Yuemin	Theory and application of efficient and clean processing of coal resources	China University of Mining and Technology	600
21	Xu Huibin	Studies on new types of intelligent metal materials working in abnormal environment	Beihang University	600
22	Cheng Huiming	Controlled preparation, structure and application of carbon nano materials	Institute of Metal Research, CAS	600
23	Liu Jiaping	Theoretical studies on building environment and energy consumption control in the west	Xi'an University of Architecture and Technology	600
24	Zhang Jun	Theory and method of network coordinated air control system	Beihang University	600
25	Li Guojie	Architecture and design of super parallel efficient computers	Institute of Computing Technology, CAS	600
26	Guan Xiaohong	Optimization, security and information services of large network systems	Xi'an Jiaotong University	600
27	Li Ruxin	Applied basic research in strong field laser	Shanghai Institute of Optics and Fine Mechanics, CAS	600
28	Chen Xiaohong	Theory and applications of uncertainty decision in complex environment	Central South University	420

3. Extended funding for creative research groups of 6-year funding

Among the 22 creative research group of 6 year funding, 18 of them applied for extended funding. After evaluation, 5 of them obtained the second extension of funding. The total funding was 28.2 million yuan. Please see the following table for details.

Extended Funding for Creative Research Groups of 6-Years Funding

Table 5 – 17

(Unit: 10,000 yuan)

	Academic leader	Research direction	Home insitution	Funding
1	Zhang Weiping	Differential geometry	Nankai University	420
2	Kang Le	Mechanism of evolution ecology of interaction of plant, pests and parasites	Institute of Zoology, CAS	600
3	Nan Cewen	Science of information functional ceramic materials	Tsinghua University	600
4	Qu Jihui	Studies on micro interface process and pollution control of environment	Research Center for Eco-Environmental Sciences, CAS	600
5	Yang Xuejun	Key technologies of high performance peta flops computation	National University of Defense Technology	600

National Science Fund for Talent Training in Basic Science

In 2012, NSFC received 135 applications for the National Science Fund for Talent Training in Basic Science. After preliminary review, peer review and panel review, and approved by the seventh meeting of the Third Management Committee of the National Science Fund for Talent Training in Basic Science, 91 were funded with a total funding of 245.1 million yuan. Please see table 5-18 for statistics.

National Science Fund for Talent Training in Basic Science in 2012

Table 5 – 18

(Unit: 10,000 yuan)

Base type	Infrastructure		Capability building				Special discipline		Teachers training		Total	
			Research training		Field practice							
	Projects	Funding	Projects	Funding	Projects	Funding	Projects	Funding	Projects	Funding	Projects	Funding
Mathematics (mechanics)	3	600	6	24,00					3	60	12	3,060
Physics (astronomy, general science)	6	1,200	6	2,400					2	40	14	3,640
Chemistry	6	1,200	5	2,000			2	600	2	40	15	3,840
Earth science	4	800	4	1,600	2	800	3	900	2	40	15	4,140
Biology	6	1,200	7	2,800	6	2,430	3	900	3	60	25	7,390
Basic TCM, psychology	4	800	4	1,600					2	40	10	2,440
Total	29	5,800	32	12,800	8	3,230	8	2,400	14	280	91	24,510

5.5 Funds for Research Environment Construction Programs

The Special Fund for Development of National Major Research Instruments and Facilities

In 2012, NSFC received 314 applications for the Special Fund for Development of National Major Research Instruments and Facilities. After expert review, expert panel review and approval of NSFC Council, 27 were funded with a total funding of 200 million yuan. Meanwhile, NSFC received 50 applications recommended by some related departments. After selection by Expert Advisory Committees of NSFC's departments and Expert Committee of the Fund, peer review, on site investigation, evaluation by the Expert Committee of the Fund and with the approval of NSFC Council, 11 were supported with a total funding of 887 million yuan.

Projects Funded by the Special Fund for Development of National Major Research Instruments and Facilities in 2012 (free application)

Table 5 – 19

(Unit: 10,000 yuan)

	Project Title	PI	Home Institution	Funding
1	Equipment for testing material properties at extremely high temperature	Fang Daining	Peking University	900
2	Super fast self spinning polarized low energy electronic microscope	Tang Wenxin	Chongqing University	900
3	High precision atomic interferometer for verification of equivalent principle	Zhan Mingsheng	Wuhan Institute of Physics and Mathematics, CAS	900
4	Connecting component for real time in-situ analysis of radiation effect	Li Ning	Xiamen University	350
5	Development of short wave chiral Raman spectroscopy with electric field and magnetic field regulation	Li Can	Dalian Institute of Chemical Physics, CAS	840
6	Studies on in situ high resolution nonlinear spectrum characterization of interface super molecule chirality and its imaging devices	Liu Minghua	Institute of Chemistry, CAS	900
7	Time identification double photon excitation of living object fluorescent imaging system	Wang Yuan	Peking University	900
8	New generation of multi color super high resolution microscope based on efficient fluorescent resonant energy transfer	Fan Chunhai	Shanghai Institute of Applied Physics, CAS	900
9	Serial mass spectroscopy for analysis of glycoprotein structure	Yang Pengyuan	Fudan University	900
10	Development of PALEOPOND for simulation of historic geo environment in the studies of degradation and mineralization equilibrium	Wang Wei	Nanjing Institute of Geology and paleontology, CAS	420
11	System of multi band seismic data acquisition in complex mountainous areas	Tuo Xianguo	Chengdu University of Technology	600
12	Development of great depth 3 – D vector broad region electromagnetic devices	He Jishan	Central South University	900
13	Development and application of laser radar system for detection of low stratosphere wind field	Sun Dongsong	University of Science and Technology of China	800
14	Distribution of particle size and chemical composition of secondary fine particle and online optical measurement system	Ge Maofa	Institute of Chemistry, CAS	880

Table 5 – 19

(Unit: 10,000 yuan)

	Project Title	PI	Home Institution	Funding
15	Equipment for online study of multi scale physical structure of membrane in elongation process	Li Liangbin	University of Science and Technology of China	870
16	Polymer micro nano stratified multilayer structure regulator and analysis and characterization system	Guo Shaoyun	Sichuan University	860
17	Testing devices for thermal simulation of dendrite growth in continuous casting	Zhai Qijie	Shanghai University	300
18	Development of in situ analysis system for friction experiments in simulated space environment	Liu Weimin	Lanzhou Institute of Chemical Physics, CAS	750
19	General measurement and analysis instruments for wireless signals	Zhang Ping	Beijing University of Posts and Telecommunications	850
20	Large field view x – ray phase contrast imaging devices and conic ray CT systems	Niu Hanben	Shenzhen University	900
21	High flux automatic DNA sequencing devices based on micro flow control chips	Lu Zuhong	Southeast University	300
22	Precision assembly devices for special shaped parts	Xu De	Institute of Automation, CAS	830
23	High precision ytterbium atomic optical clock	Lu Baolong	Wuhan Institute of Physics and Mathematics, CAS	540
24	High precision ground proximity remote sensing system based on spectrum and structural information acquisition and integrated detection	Zhao Huijie	Beihang University	750
25	Technology of optical living object examination-non invasive super high resolution internal viewing optical interference imaging system	Xue Ping	Tsinghua University	540
26	Low power ultrasonic molecular imaging and therapy systems	Wang Zhigang	Chongqing Medical University	700
27	2-D spectroscopy for fast identification of target objects in natural drugs	He Langchong	Xi'an Jiaotong University	720

Projects Funded by the Special Fund for Development of National Major Research Instruments and Facilities in 2012 (by recommendation)

Table 5 – 20

(Unit: 10,000 yuan)

	Project Title	PI	Home Institution	Funding
1	Multi band pulse single self – spin MNR spectroscopy	Du Jiangfeng	University of Science and Technology of China	5,600
2	Integrated research platform for in situ electronic structure of new energy materials SiPoME2 using Shanghai Synchrotron Radiation Facility	Liu Zhi	Shanghai Institute of Microsystem and Information Technology, CAS	14,800
3	Super high precision real space/momentum space in situ spectroscopy at extreme conditions	Pan Shuheng	Institute of Physics, CAS	7,900
4	Multi channel super conductivity single photon probe	Wu Peiheng	Nanjing University	4,900
5	New generation of ultra high voltage generator	Zou Guangtian	Jilin University	8,700
6	Cold neutron non elastic scattering spectroscopy	Pao Wei	Renmin University of China	11,100
7	Rock mechanics experimental system of multi field coupled CT of high energy accelerator	Li Xiao	The Institute of Geology and Geophysics, CAS	5,650
8	1.5 meter scanning interference field exposure system	Bayin Hexige	Changchun Institute of Optics, Fine Mechanics and Physics, CAS	8,300
9	Super high sensitivity magnetic field and inertia measurement experiment devices based on atomic self – spin effects	Fang Jiancheng	Beihang University	8,850
10	Multi model merged optical molecular imaging devices for small animals	Tian Jie	Institute of Automation, CAS	8,500
11	MNR imaging device system for studying major lung diseases	Zhou Xin	Wuhan Institute of Physics and Mathematics, CAS	4,400

Special Fund for Basic Research on Scientific Instruments



In 2012, NSFC received 462 applications for the Special Fund for Basic Research on Scientific Instruments. After peer review, panel review and approval of NSFC Council, 50 were supported with a total funding of 150 million yuan.

Projects Funded by the Special Fund for Basic Research on Scientific Instruments in 2012

Table 5 – 21

(Unit: 10,000 yuan)

	Project Title	PI	Home Institution	Funding
1	Measurement and analysis device for dynamic property evolution of key moving parts in steering frame of high speed locomotives	Yang Shaopu	Shijiazhuang Tiedao University	330
2	Measurement system for micro nano mechanical properties of materials	Li Xide	Tsinghua University	290
3	Development and application of nano single crystal electron diffractometers	Li Jixue	Zhejiang University	290
4	Development of low temperature strong magnetic field super vacuum in situ micro region transport measurement systems	Jia Jinfeng	Shanghai Jiao Tong University	330
5	Multi functional magnetic electric coupling effect measurement system	Sun Yang	Institute of Physics, CAS	290
6	Development of 2 – D super fast quantum 0phase interferometer spectroscope	Xiao Min	Nanjing University	290
7	Surface plasma excimer nano light source and nano optical microscope	Xu Hongxing	Institute of Physics, CAS	350
8	Development of soft ion source mass spectroscope for metal complex	Zheng Lansun	Xiamen University	300
9	In situ characterization devices for dynamic microstructures of catalyst in real reaction conditions	Wang Jianguo	Institute of Coal Chemistry, CAS	300
10	Development of femto second time resolution 2 – D electro spectroscope	Wong Yuxiang	Institute of Physics, CAS	300
11	Development and applications of high spatial temporal resolution in situ electro chemical micro Raman spectroscope	Ren Bin	Xiamen University	320
12	Fluorescent analyzer for detection of small active molecular species in single cell	Tang Po	Shandong Normal University	320
13	Multi channel micro flow control chip and mass spectroscope based on paper base electric spray	Lin Jinming	Tsinghua University	320

Table 5-21

(Unit: 10,000 yuan)

	Project Title	PI	Home Institution	Funding
14	Development of super micro quantity, high flux micro flow controlled droplet analysis and selection system	Fang Qun	Zhejiang University	300
15	Development of wide frequency self adapting differential quartz crystal micro balance by integration of electro chemical methods and its application in detecting tumor markers	Zhang Shusheng	Linyi University	310
16	Development of adaptor selection micro analysis system	Xu Danke	Nanjing University	290
17	Key technologies of electron beam excited super diffraction limited high resolution optical microscope	Zhu Yongfa	Tsinghua University	290
18	Photo catalyst surface/interface in situ characterization system	Zhao Jincai	Institute of Chemistry, CAS	300
19	Development of multidimensional separation purification system for nano materials	Liu Jingfu	Research Center for Eco-Environmental Sciences, CAS	300
20	Research on technologies and development of 5GPa high temperature high pressure rheometer	Zhang Xuefeng	China University of Geosciences (Wuhan)	290
21	Multi scale mechanical experimental systems for rheological damage of hydro-mechanical coupling of soft rock	Zhou Cuiying	Sun Yat-sen University	320
22	Space remote sensing absolute radiation standard radiator	Fang Wei	Changchun Institute of Optics, Fine Mechanics and Physics, CAS	290
23	Multi functional solidification devices for synchrotron radiation X-ray imaging of metal solidification process	Li Jinfu	Shanghai Jiao Tong University	290
24	Development and application of automatic micro pulling down crystal optical fiber growth furnace	Tao Xutang	Shandong University	280
25	Development of nondestructive testing methods and system for bolt power in coal mine workings	Miu Xiexing	China University of Mining and Technology	290
26	Online measurement of thermal geometric parameters of large forgings	Jia Zhenyuan	Dalian University of Technology	300

Table 5 – 21

(Unit: 10,000 yuan)

	Project Title	PI	Home Institution	Funding
27	Development of tri axial apparatus for high pressure low temperature natural gas and hydrates	Song Yongchen	Dalian University of Technology	300
28	Development of 3 – D Hopkinson Bar impact loading devices	Hao Hong	Tianjin University	300
29	Large scale wireless transmission chromatography imager based on shade fading	An Jianping	Beijing Institute of Technology	290
30	Development of 120Km/h car – borne online electromagnetic detector of rail fractures	Liu Ze	Beijing Jiaotong University	290
31	Self adapting energy X – ray 3 – D CT systems	Han Yan	North University of China	290
32	High precision no – touching body data collector	Shi Guangming	Xidian University	290
33	Online quality testing devices for plastics injection process	Gao Furong	HKUST Fok Ying Tung Graduate School	290
34	Visual measuring devices for oil, gas water multi phase flow process parameters	Dong FEng	Tianjin University	280
35	Small integrated inferred spectrograph testing devices for temporal spatial spectrum compressed sensing	Zhang Tianxu	Huazhong University of Science and Technology	300
36	Development of in situ evaluation system for optical physical properties of organic photo electric materials	Wang Pengfei	Technical Institute of Physics and Chemistry, CAS	350
37	Detection system for transportation related to epitaxy and in situ self spinning of hetero structures of semiconductor/ magnetic materials in strong magnetic fields	Kang Junyong	Xiamen University	310
38	Development of pulse digital holographic real time detector with femto second time resolution	Zhai Hongshen	Nankai University	350
39	Optical fiber transducer array monitor of atmospheric pressure on aircraft	Liu Tiegen	Tianjin University	290

Table 5 – 21

(Unit: 10,000 yuan)

	Project Title	PI	Home Institution	Funding
40	Crystal semiconductor core optical fiber laser wire drawing devices	Wang Tingyun	Shanghai University	290
41	Super high resolution, super large dynamic scope optical fiber transducer general measurement system	Yang Jun	Harbin Engineering University	290
42	Nano optical field multi parameter measurement devices based on scanning near field optical microscope	Wang Jia	Tsinghua University	290
43	Development of prototype continuous variable quantum entanglement state light source	Zhang Kuanshou	Shanxi University	290
44	Development of high speed total light real random number generators	Wang Yuncai	Taiyuan University of Technology	300
45	In vivo imaging flow cytometer with early real time monitoring of tumor cell migration	Wei Xunbin	Shanghai Jiao Tong University	280
46	Development of high resolution melting curve analyzer for gene mutation and SNP analysis	Peng Niancai	Xi'an Jiaotong University	290
47	Development of standard devices for joint measurement of endocardium and epicardium	Ma Changsheng	Capital Medical University	290
48	Visual excitation by MNR and eye movement analysis system for brain functions based on real time feed back	Gong Qiyong	Sichuan University	290
49	High field functional MNR imaging spectroscopy for research	Gao Jaihong	Peking University	290
50	New Types of ultrasonic cavity devices based on micro bubble cavity regulation	Liu Zheng	The Third Military Medical University of PLA	290

Note: 48 projects funded from 420 male applications; 2 projects funded from 42 female applications.

Funded Projects by Joint Funds

Applications and Funding for Joint funds in 2012

Table 5 – 22

(Unit: 10,000 yuan)

Program type	Applications	Funded	Funding
NSAF Joint Fund	66	33	2,260
Joint Fund of Astronomy	79	28	2,500
Joint Fund of Large Science Facilities	145	57	6,000
Joint Fund of Iron and Steel	28	8	1,120
Joint Fund of Coal	162	40	4,895
Joint Fund of Civil Aviation Research	111	34	1,950
NSFC-Guangdong Joint Fund	150	32	7,725
NSFC-Yunnan Joint Fund	112	25	5,075
NSFC-Xinjiang Joint Fund	65	20	2,882
NSFC-Joint Fund of Talent Fostering	1,027	150	4,455
Joint Fund for Promoting Cross – Strait S & T Cooperation	74	12	2,925
Joint Fund of Petrochemical Engineering	246	23	3,000
Joint Fund of High Speed Trains	50	11	3,000
Total	2,315	473	47,787

Projects of Public Understanding of Science

In 2012, NSFC received 46 applications recommended by 7 scientific departments. After panel review and approval of NSFC Council, 21 were supported with a total funding of 5 million yuan.

Special Grant for Key Academic Journals

In 2012, NSFC received 86 applications for Special Grant for Key Academic Journals. After peer review, panel review and approval of NSFC Council, 33 were supported with a total funding of 7.4 million yuan.

Scientific Activities of Adolescent

Following the principle of “more emphasizing on basic science, more emphasizing on frontier science, and more emphasizing on talent training”, the program of Scientific Activities of Adolescent funded 25 projects selected from the summer schools for graduate students sponsored by the Ministry of Education in 2012, with the average funding of 200,000 yuan and a total funding of 5 million yuan.

In 2012, through competition in all provinces in China, and from those who entered the national finals, NSFC selected the students to participate the International Disciplinary Olympiads. These large scale disciplinary competition and selection process greatly aroused the interests of young students in sciences, and played a positive role in promoting science education of the adolescent. From April to September, 2012, different teams were sent to Year 2012 Olympiads in math, physics, chemistry, biology, and informatics held in Argentina, Estonia, USA, Singapore and Italy. The Chinese students made outstanding achievements, winning 19 gold medals, 3 silver medals, and 1 bronze medal.

The Fund for Outstanding State Key Laboratories

In 2012, NSFC funded 8 projects in information sciences within the Fund for Outstanding State Key Laboratories. The total funding was 24 million yuan.

NSFC President Fund

In 2012, NSFC funded 98 projects within NSFC President Fund. The total funding was 31.35 million yuan.

NSFC Department Directors' Fund

In 2012, NSFC funded 1152 projects within NSFC Department Directors' Fund. The total funding was 152.52 million yuan.

Tianyuan Fund of Mathematics

The Management Procedure for Tianyuan Fund of Mathematics was announced on August 2, 2012, and implemented from September 1. This document defined this Funds positioning, underlined its special features, normalized its management, and emphasized its exploratory nature.

In 2012, NSFC held 2 meetings of the Academic Leading Group of Tianyuan Fund of Mathematics, and several special working group meetings. During these meetings, the application in 2012 were reviewed, guideline for project application for 2013 was revised, and some issues regarding to the implementation of the above mentioned document and future work of the Fund were discussed.

In 2012, NSFC received 778 applications within Tianyuan Fund of Mathematics, and funded 337 projects with a total funding of 15 million yuan. Among them, (1) 9 applications for the mathematical summer schools to graduate students, mathematical summer camps for middle school students, and the training projects for young mathematical teachers in the west and northeast, and 8 of them were funded with a total funding of 2.9 million yuan; (2) 701 applications for projects of Young Mathematicians, and 305 were funded with a total funding of 9.24 million yuan; (3) 30 applications

for seminar, workshop and important academic exchange activities, and 17 were funded with a total funding of 1.9 million yuan; (4) 2 applications for publications, information resources construction in network environment, and none of them were funded; (5) 6 applications for mathematical education, mathematical dissemination and mathematical cultural studies, and 4 of them were funded with a total funding of 360,000 yuan; and (6) 30 applications for discussions on problem driven applied mathematics, and 3 of them were funded with a total funding of 600,000 yuan.

Special Fund for Theoretical Physics

In 2012, through review, the Academic Steering Committee of the Special Fund for Theoretical Physics approved 33 applications for “Cooperative Research and Training” (from 163 applications), 125 applications for “Starting Project for Ph. D. Researchers” (from 243 applications), and 10 applications of “Peng Huanwu’s Forum of Theoretical Physics”, Workshop on Development Strategy of Theoretical Physics, “Advanced Workshop on Theoretical Physics”, “Special Lectures on Theoretical Physics”, and “Academic Exchange Activities and Talent Training of Theoretical Physics in West Regions”, etc. The total funding was 15 million yuan.

In 2012, the Academic Steering Committee of the Fund held one working meeting and one project review meeting, and held successfully the 8th “Peng Huanwu’s Forum of Theoretical Physics”, and the 8th “Lecture on Theoretical Physics”.