Australian Government
Department of Education, Skills and Employment

China expands efforts to improve applied research capacity

(Information current as at 27 November 2017)

In order to strengthen China's higher education and research system, the Chinese Government has been putting incentives in place for the past decade to attract foreign and returning researchers into its universities. As part of these efforts the 111 Project was developed to attract high performing researchers from prestigious universities to China, to help develop research discipline bases in Chinese universities.

The 111 Project [高等学校学科创新引智计划 in Chinese, Pinyin: Gāoděng xuéxiào xuékē chuàngxīn yǐn zhì jìhuà] was established in 2006 by the Chinese Ministry of Education (MoE) and the State Administration of Foreign Experts Affairs (SAFEA), with the aim of developing around 100 world leading research discipline bases in Chinese universities with 1000 top talents from the world's top 100 universities to work with Chinese researchers.

According to an announcement by the MoE in February this year, 359 project bases have been established to date in 80 national-level universities, of which 136 have been established since 2012. Most of these research bases cover disciplines such as material science, engineering, chemistry and chemical engineering, energy, agriculture, biology, mathematical sciences and advanced manufacturing. The prioritisation of these disciplines reflects an emphasis on further developing China's applied research capacity to support strategic development plans such as "Made in China 2025".

Each of the approved bases is made up of at least 10 foreign research experts and 10 Chinese research experts. At least one foreign expert must be a high profile researcher under 70 years of age, with a title equivalent to Academy Fellow of science or engineering, and willing to work in China for more than one month per year (accumulative). At least five foreign experts must be mid-career researchers under 50 years of age, holding positions equivalent to associate professor or above in their home country, and willing to work in China for at least three months per year (accumulative). At least one of the five foreign experts must be willing to work in China for longer.

The 111 Project bases are reviewed on a five year basis with a mid-term assessment at the second or third year. Each base receives approximately 360,000 AUD funding per year, provided by the MoE, SAFEA and the host university. The established bases are encouraged to initiate international research cooperation and jointly deliver PhD programs.

The first bases approved in 2006 were hosted by 985 project universities. The program was expanded in 2007 to include 211 project universities and to a selection of further universities with identified disciplines of national importance in 2008 (see our earlier policy update for more information on the 985 and 211 projects). In 2016 the program was expanded further to include mid-ranked provincial universities. Bases that have satisfactory research outcomes at the end of the five year cycle are given another round of funding.

The 111 Project has gained momentum in the past few years with the introduction of the Double First Class university initiative and the increased emphasis on world-class disciplines. The fact that the 111 Project has expanded to include mid-ranked provincial universities is a sign that China is looking to encourage a greater diversity of universities to build on their competitive strengths to develop world-class disciplines.

Australian researchers looking to establish research collaborations with Chinese universities can use the lists of approved 111 Project bases as guide to priority fields of research in a broad range of Chinese universities.

For detailed information on 111 Project bases in 2017, see:

Appendix A: Approved “111 Project” bases in high-ranked, national universities
Appendix B: “111 Project” bases in mid-ranked, provincial universities
Appendix C: “111 Project” established bases with second round funding in 2017

For further enquiries, please contact the Education and Research Section of the Australian Embassy in Beijing.

Appendix A: Approved "111 Project" bases in high-ranked, national universities - 2017 (sorted alphabetically)

#	University	Research priority of "111 Project" base
1	Beihang University	Advanced materials for air and space
2	Beijing Institute of Technology	Safety and protection studies
3	Beijing Normal University	Multi-scale ecological simulation and safety regulation and control technology
4	Beijing University of Posts and Telecommunications	Establishment and integration of Information network system
5	Central China Normal University	Green pesticide and synthetic chemistry
6	Central South University	Intelligent control and optimizing decision making of manufacturing process
7	Central University of Finance and Economics	Decision making and risk assessment of insurance
8	Chang'an University	Sustainable development of highway engineering in special regions
9	China Agricultural University	Developmental physiology and quality control of horticultural crop
10	China Pharmaceutical University	Discovery of anti-tumour and anti-infective drug
11	China University of Geosciences (Wuhan)	Advanced control and intelligence automation of complex system
12	China University of Mining and Technology	Prevention and utilisation of underground coal fire
13	China University of Mining and Technology (Beijing)	Coal-based rare metal deposits
14	China University of Petroleum (Beijing)	Research on basics of exploitation of deep geothermic resources
15	China University of Petroleum (East China)	Offshore oil and gas engineering
16	East China University of Science and Technology	Intelligent optimization manufacturing for petroleum chemical industry
17	Fudan University	Studies of persistent infections and diseases
18	Harbin Institute of Technology	Millimetre wave terahertz imaging technique
19	HeFei University of Technology	Optimization and decision-making of complex product manufacturing process
20	Hohai University	River network hydrodynamic system and safety
21	Hunan University	Optimizing and control of smart power grids
22	Jiang nan University	Key technology for textile ecological processing
23	Jilin University	Multi-purpose material molecular engineering

24	Nanjing Agricultural University	Research on multipurpose utilization of rural Land Resources
25	Nanjing University	Monsoon climate variation and meteorological disaster research
26	Nanjing University of Science and Technology	Theory and technology of advanced photoelectric imaging
27	Nankai University	Environmental processing and risk assessment of new pollutants
28	Northeast Normal University	Research on ethics and moral of modern youth
29	North-eastern University	Deep engineering rock mass mechanics and safety
30	Northwestern Polytechnical University	Complex flow and control of aircraft
31	Peking Union Medical College	Study and intervention of Inflammation and major diseases
32	Peking University	High confidence software technologies
33	Renmin University of China	Technology and application of social economic big data
34	Shanghai Jiaotong University	Translational medicine
35	Shanghai University of Finance and Economics	Frontier theory and method of economics
36	Sichuan University	Green chemistry and technology
37	South China University of Technology	Food nutrition and health
38	Southeast University	Organ chip
39	Sun Yat-sen University	Study of monsoon weather change in east and southeast Asia
40	Tianjin University	Fibre optical sensor and communication
41	Tongji University	Transportation safety
42	Tsinghua University	Interdisciplinary studies of bio manufacturing and extracorporeal life system engineering
43	University of Electronic Science and Technology of China	Visual media signal and information processing
44	University of Science & Technology Beijing	Engineering of materials genome
45	Wuhan University	Modern geodesy and geodynamics
46	Wuhan University of Technology	New energy vehicle science and key technologies
47	Xiamen University	Nano scale surface and cluster structures of energy material chemistry
48	Xi'an Jiaotong University	Electrical materials and electronic equipment
49	Xidian University	Science and technology of optoelectronic information sensing in complex environment
50	Zhejiang University	Crop quality and safety

Appendix B: Approved "111 Project" bases in mid-ranked, provincial universities - 2017 (sorted alphabetically)

#	University	Research priority of "111 Project" base
1	Beijing Information Science and Technology University	Advanced optoelectronic devices and systems
2	Changchun University of Science and Technology	Manipulation and manufacturing of micro-nano technology
3	East China University of Technology	Science and instrument of mass spectrometry
4	Fuzhou University	Green petrochemical engineering
5	Guangdong University of Technology	Discrete manufacturing intelligence based on Internet of Things technology
6	Guangxi Medical University	Clinical application and study of liver injury and repair
7	Guizhou Normal University	Ecology of South China's karst area
8	Hangzhou Dianzi University	Perception and control of cyber physics system
9	Henan Normal University	Green chemistry and power materials
10	Hubei University of Technology	Cell regulation and molecular medicine
11	Jilin Agricultural University	Discovery, formulation and application of high yielding pest resistance fungi crops
12	Nanjing University of Posts and Telecommunication	Micro-nano device and information system
13	North-western University	Early life and environmental studies
14	Qingdao University of Science and Technology	Rubber and plastic materials and engineering
15	Shanghai University	Modern metallurgy and materials
16	Sichuan Agricultural University	Animal nutrition and breeding
17	Tianjin University of Technology	New energy materials
18	University of Jinan	Advanced cement-based materials
19	Xinjiang Medical University	Prevention, examination and treatment of echinococcosis
20	Zhejiang Normal University	Fluorine-containing new materials
21	Zhejiang University of Technology	Green pharmaceutical

Appendix C: Approved "111 Project" established bases with second-round funding 2017 (sorted alphabetically)

#	University	Research priority of "111 project" base
1	Central South University	Carcinogenesis and principal of cancer invasion
2	China Agricultural University	Crop genetic improvement and molecular breeding
3	China Pharmaceutical University	Drug biosynthesis and biotransformation
4	Donghua University	Advanced manufacturing technology and science of fibre materials
5	Jiangnan University	Applied microbiology and bio-manufacturing technology
6	Lanzhou University	Medicinal chemistry
7	Shandong University	Environmental archaeology
8	South China University of Technology	Physical environment and energy efficiency of architectures
9	Southeast University	New artificial electromagnetic material (Metamaterial)
10	Southwest Jiaotong University	Wireless communication and information coding
11	Tsinghua University	Frontier issues of mathematics and their applications
12	University of Electronic Science and Technology of China	Integrated circuit and integrated system
13	Wuhan University	Advanced energy, information and medical materials