

# IEICE Global Plaza

—Monthly community plaza in English for students, faculties and engineers—

## Discover Universities

### Globalization Progress at Beijing University of Posts and Telecommunications



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Section*

#### Overview of BUPT

Beijing University of Posts and Telecommunications (BUPT) was founded in 1955, originally named Beijing Institute of Posts and Telecommunications (BIPT). It is the first higher institute featuring posts and telecommunications technologies under the administration of former Ministry of Posts and Telecommunications, and now is a comprehensive university featuring information and communication technologies under the administration of Ministry of Education (MoE) and co-built by the Ministry of Industry and Information Technology (MIIT). BUPT was approved as one of the first 61 universities entering "Project 211" which aims at strengthening 100 National Key Universities as a national priority for the 21<sup>st</sup> century, and joined the "Project 985 Innovation Platform for Superior Discipline".

BUPT is the most famous and important teaching and research base for information technology and communication industry in China. It has 14 teaching units, 3 research institutes and 1 graduate school, and it covers disciplines of engineering, science, management, economics, philosophy, law, education, humanity and arts. It offers 36 undergraduate programs, 23 master programs, 9 PhD programs and 5 post-doctoral programs.

BUPT has 22,000 full-time students and about 30,000 part-time students. It has over 2,000 staffs, including 1,420 full-time teachers, 9 academicians, 4 Distinguished Chang Jiang Scholars, 2 National Renowned Teachers, 21 national experts with outstanding contributions, 6 "973 Program" Chief Scientists and so on.



Fig. 1 Main Building in BUPT campus, Beijing



Fig. 2 No. 3 Teaching Building in BUPT campus, Beijing

#### Outstanding Achievements of BUPT

In China, BUPT has been in the forefront of the teaching and research in the field of information and communications, computer, and electronic engineering. It has gained fruitful achievements on teaching and research as introduced below.

##### (1) Achievements in Education

BUPT plays a leadership role in teaching in the field of Information and Communication Technology (ICT) in China. It has two national key disciplines, Information and Communication Engineering as well as Electronic Science and Technology. The former one ranked No. 1 in the assessment of the National Key Discipline of MoE in 2012.

BUPT possesses all kinds of top-end experimental instruments related with ICT, with one of the highest ratio of instrument-value to students among universities in China. Its library has 1.71 million paper books and 4.51 million electronic books (equally) with first-class information inquiry services.

BUPT is one of ten universities which took part in the initial

construction of "China Education and Research Network" (CERNET) in 1994, and is also one of the core nodes of CERNET2 that adopts IPv6 protocol. In addition, Wi-Fi covers almost the entire campus. Teachers and students can use free Internet access anytime and anywhere.

BUPT endeavors to foster students mentally and academically. Students have actively participated in various national and international contests, and gotten outstanding records in mathematics, physics, electronics and English. For example, in the International Mathematical Contest in Modeling (MCM) in 2013, 2 delegations of BUPT are Outstanding Winner, 2 delegations are Finalists, 31 delegations are Meritorious Winner and 92 delegations are Honorable Mentions, taking first place among the higher education institutions that participated in the contest in China. In the 37<sup>th</sup> Annual World Finals of the ACM International Collegiate Programming Contest (ICPC) in 2013, the delegation of BUPT ranked No. 48 parallel (No. 52 absolutely). To promote the innovation fostering of students, BUPT established 3 national-level out-campus practice education bases, 4 national-level engineering practice education centers, 2 national-level experimental teaching demonstration centers, and several municipal-level bases and centers. By September, 2012, more than 4,000 students participated in 986 programs on innovation and entrepreneurship.

As one of the evidences of abundant teaching achievements, employment rate of BUPT's graduates has been ranking top among Chinese universities, about 99.63% in 2012. Most of graduates are employed by famous domestic and foreign IT companies.

##### (2) Achievements in R&D

BUPT has been the leading edge in R&D of ICT field. It has 2 State Key Laboratories, 2 National Engineering Laboratories, 2 "111" International Academic Talents Bases, 2 MoE Key Laboratories, 2 MoE Engineering Research Centers, 4 Beijing Key Laboratories, 1 Beijing International Scientific and Technological Cooperation Base, etc. More than 10 thousand of projects have been conducted with nearly 3.3 billion RMB funds and gained 14 national-level awards since the 10<sup>th</sup> five-year plan of China. Here the two representative laboratories are introduced.

State Key Laboratory of Networking and Switching Technology was approved in 1992. It has 6 research centers, Switching and Intelligent Control Research Center, Network Management Research Center, Network Intelligence Research Center, Network Service Foundation Research Center, Broadband Networks Research Centers, Network and Information Security Center. It possesses a number of well-known academic pacemakers, including academicians, Prof. Junliang Chen, and "973 Program" Chief Scientists, Prof. Ping Zhang and Prof. Luoming Meng, and is supported by the foundations for Innovative Research Groups of NSFC, Distinguished Young Scholars of NSFC, etc. In recent five years, the Laboratory has conducted more than 300 projects supported by the National Key Basic Research Program (973 Program), National High Technology Research and Development Program (863 Program), National Natural Science Foundation of China (NSFC), etc., and gained 2 National Science & Technology Progress Awards (second-class). The Laboratory has also provided Open Projects and conducted about 10 international collaboration projects with the foreign partners.

State Key Laboratory of Information Photonics and Optical Communications (IPOC) was approved in 2011, its predecessor is MoE Key Laboratory of IPOC. The laboratory has 3 research centers, Fundamental Theories of Information Photonics Research Center, New Type Photonic Materials & Components Research Center and Advanced Optical Communication Systems & Photonic Networks Research Center. It possesses a number of well-known academic pacemakers, including academicians, Prof. Peida Ye (passed away in 2011) and Prof. Daxiong Xu, "973 Program" Chief Scientists, Prof. Xiaomin Ren and Prof. Yuefeng Ji, and is supported by foundations for Innovative Research Group of MoE, Distin-

guished Young Scholars of NSFC, etc. In recent five years, the Laboratory has conducted more than 170 national-level projects supported by 973 Program, 863 Program, NSFC, etc., and gained 2 National Science & Technology Progress Awards (second-class) and 1 National Award for Technological Invention (second-class). The Laboratory has conducted joint research projects with tens of well-known universities or institutes from Russia, European Union, Canada, Japan, Singapore, etc. It established "111" Base on "Key Technologies for Telecommunications and Networks" to collaborate with foreign experts, also provided Open Projects and established Open Labs to attract excellent domestic and international researchers.

### Globalization Activities of BUPT

BUPT pays much attention to the global collaboration, it has established inter-university academic exchange programs with more than 70 universities from 40 countries and regions, including USA, UK, Germany, Sweden, France, Japan, Korea, Taiwan, Hong Kong and Macao. The main globalization activities in recent years are as follows.

#### (1) "111" International Academic Talents Base

"Programme of Introducing Talents of Discipline to Universities" ("111 Programme") was launched by MoE and State Administration of Foreign Experts Affairs (SAFEA) in 2006. It aims at introducing 1,000 excellent talents from the top 100 universities and research institutes in the world to build high-level research teams and set up about 100 world-level international academic talents bases. BUPT has 2 "111" bases, one is "Key Technologies for Telecommunications and Networks" base, and another one is "Advanced Intelligence and Network Service" base.

The "Key Technologies for Telecommunications and Networks" directed by Prof. Xiaomin Ren, Vice President of BUPT, was initiated in 2007 and renewed in 2011. Great Masters of Science invited by the base are Prof. Zhores I. Alferov, the 2000 Year Nobel Laureate in Physics, Vice President of the Russian Academy of Sciences (RAS) and the Rector of RAS St. Petersburg Academic University, and Prof. Hermann Rohling, Vice President of Technical University of Hamburg-Harburg, Germany. The base has conducted more than 20 international joint projects and established Russian-Chinese Joint Laboratory of Information Optoelectronics and Nanoheterostructures. 24 international conferences were sponsored or hosted, and over 100 academic reports and lectures were held. Its member published lots of paper on high-level journals including Nano Letters.

The "Advanced Intelligence and Network Service (AINS)" directed by Prof. Jun Guo, Vice President of BUPT, was initiated in 2008 and renewed in 2012. Great Masters of Science invited by the base are Prof. Yoshiaki Nemoto, Vice President of Tohoku University, and Prof. Shuo-Yen Robert Li of The Chinese University of Hong Kong. The base has established the international collaboration with many countries, including Japan, Korea, USA, Canada, Norway, Denmark and Australia. It initialized International Conference on Network Infrastructure and Digital Content (IC-NIDC), and organized several workshops and a summer school. More than ten important joint researches were fostered through this base, including NSFC-NSF, FP-7, and A3 projects. Its members published lots of paper in high-level journals including Science and Nature's online magazine "Science and Scientific Reports".

#### (2) International Exchange Program

In order to meet the globalization requirements of China, BUPT endeavors to promote the international exchange programs among teachers and students. By the end of 2012, 167 Memorandum of Understanding (MoU) and Agreements have been reached with universities from foreign countries and regions. BUPT has 123 foreign teachers, including honorary Prof. Kun Gao, the 2009 Year Nobel Laureate in Physics, and 410 international students.

In BUPT, many teachers have been trained abroad supported by governmental programs, e.g., Visiting Scholars and Post-doctoral Fellow Programs, Young Teachers Training Abroad Programs, etc. Each year, about 50 students are selected to study in doctor courses of top universities abroad supported by governmental Post-graduate Study Abroad Program, and some excellent undergraduate students are selected to study or practice abroad supported by governmental Excellent-undergraduate International Exchange Program. In addition, BUPT has the other international student

exchange programs with foreign universities, including University of Electro-Communications in Japan, Linköping University in Sweden, etc.

#### (3) International School

In 2004, BUPT established the International School, which was approved by MoE, to conduct International Joint Degree Program with Queen Mary, University of London. Nowadays, the International School has over 2,000 students, the students who meet the requirements of the above Joint Degree Program for graduation can receive both Bachelor Degree of BUPT and that of University of London. In 2013, about 60 percent graduates will pursue their higher education abroad.

In 2012, BUPT and the University of the South Pacific (USP) jointly established the Confucius Institute at the University of the South Pacific (CI-USP), headquartered in Suva, Fiji. CI-USP provides opportunities for USP students and local people to learn Chinese language and culture.

#### (4) Other International Activities

BUPT has also cooperated successfully with many world-famous enterprises in various forms, e.g., it has established BUPT-JDSU Joint Laboratory, BUPT-Orange Joint Laboratory, BUPT-Hitachi Joint Laboratory, and Chinese-Russian Joint Laboratory.

In recent years, BUPT has organized and hosted lots of international conferences, including IC-NIDC, IEEE International Conference on Broadband Network & Multimedia Technology (IC-BNMT), and Asia Communications and Photonics (ACP). Such conferences are very helpful to widen world view and enhance international communication.

In summary, this article introduced the fundamental strategy of BUPT and expectation to the globalization of education and research activities. Your constructive proposals are welcome.

#### Note by IEICE-TFIPP (Kenzo Takahashi, Prof.)

The author received her PhD degree from The University of Tokyo in 2006 (Aoyama-Morikawa Lab). She serves BUPT as Associate Professor and one of AINS members. Her research area covers optical switching, optical networking and sensor networking. Her outreach includes an invited speech in COIN2013 held in Beijing, in October, 2013. Her talk based on her leading and positive R&D activities will encourage the younger generation for the future global collaborations.

### Hot Topics

#### 2013 IEICE Society Conference Successfully Held in Fukuoka, Japan, on September 17-20 with English Session during the four days

IEICE Society Conference was held at Fukuoka Institute of Technology, in Fukuoka, Japan, on Sept. 17-20, 2013. Engineering Sciences Society (ESS), Communications Society (CS) and Electronics Society (ES) joined the Conference, the number of participants reached about 3,500. There, 1,534 general papers and 175 symposium papers were presented and opinions of each issue were exchanged between speakers and the audience. Above all, the English Session BS-7 entitled "Network and Service Design, Control and Management" was provided by CS. The details will be reported in the coming issue of IEICE Global Plaza.

#### Message from TFIPP Secretariat

This issue is delivered also by a free mail magazine "IEICE Global Plaza Online" with updated news of interest for you. Please contact Prof. Takahashi, TFIPP (Task Force for International Policy and Planning) at [global@ieice.org](mailto:global@ieice.org), if you need. Back numbers are available in archives at : [http://www.ieice.org/eng/global\\_plaza/index.html/](http://www.ieice.org/eng/global_plaza/index.html/)

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