

Introduction

Historical Background

The development of the mathematical sciences is an important part of teaching and research at Peking University. As early as 1904, "School Regulation" issued by the Chinese government stated that "Advanced Calculation Subject" belonged to "Ge Zhi Ke" (now known as the science department) and the required and supplementary courses of "Calculation Subject Men" ("Men" means department"). By a decree released by the government in 1912, "Ge Zhi Ke" was changed into the science department, which included mathematics. In the fall of 1913, Peking University began enrolling math students, symbolizing the official beginning of teaching activities by the first collegiate department of mathematics in modern China.

In January 1917, Mr. Cai Yuanpei took on the presidency of Peking University, leading the University into a new stage of development. In the fall of 1919, Peking University changed "Men" into department. When deciding the order of all departments, Mr. Cai Yuanpei stated, "The mission of all universities is that those engaged in the philosophy, literature and applied sciences, shall start with pure sciences; those engaged in pure sciences, shall start with mathematics. Therefore, the mathematics department shall be listed as the first among all departments." Today, the School of Mathematical Sciences is still listed as the first among all departments/colleges at Peking University.

In the fall of 1952, the government conducted a nationwide readjustment of colleges and universities with the aim of meeting the needs of the far-reaching economic development of the country. The three mathematics departments at Peking University, Tsinghua University, and Yenching University were merged to form the new Department of Mathematics and Mechanics at Peking University. The Mechanics part later evolved into an independent Mechanics Department. In 1985, the division of Probability and Statistics also evolved into the Department of Probability and Statistics. To promote its development, Peking University established the School of Mathematical Sciences in 1995 on the basis of the Department of Mathematics and the Department of Probability and Statistics.

During the past 100 years, thanks to the painstaking efforts and hard work of several generations, the field of mathematics at Peking University takes on a new look. It continues its strides in teaching, research and other related works; it has a large contingent of outstanding mathematicians and computer scientists -- more than 30

have been elected as members of the Chinese Academy of Sciences; and it has several thousands of undergraduates, over 1000 Master's degree graduates, and around 300 Doctoral graduates who are engaged in many fields in and outside the country -- some work as core members in their respective fields, some work as prominent entrepreneurs, and some have received acclaims from all circles in society.

Departments and Institutes

The undergraduate program of the School of Mathematical Sciences has been selected by the state as the Natural Science Basic Research and Teaching Personnel Training Center. The School seeks to strengthen students' command in basic knowledge, encourage students to take courses outside their respective majors, teach students in accordance with their aptitude, and improve their ability to adjust themselves in the fast changing society.

All students from the five departments take approximately the same compulsory courses during the first two years. These courses include: mathematical analysis, high algebra, advanced geometry, probability theory, introduction to computer sciences, physics, English, political science and PE. Beginning in their second academic year, students select part of the courses according to the requirements of different departments; some courses are required courses for some departments while serving as optional courses for other departments. The School offers many special courses: ordinary differential equations, partial differential equations, real function, complex function, functional analysis, abstract algebra, differential geometry, topology, measure theory, mathematical statistics, stochastic process, time series analysis, multivariate statistical analysis, experimental design, theory of sampling, statistical computation, insurance mathematics, mathematical modeling, numerical algebra, numerical analysis, computing fluid mechanics, data structure, software design and optimization, discrete mathematics, general introduction to information science, model identification, artificial intelligence, decision making and optimization, etc. Students can also select courses offered by other schools or departments such as Economics, Management, Law, and Computer Sciences.

Graduates trained at this School have established a solid foundation of basic theories and amassed a wide range of knowledge. Having undergone rigorous training in mathematics and technical training in computer, they can adjust themselves to different circumstances. Graduates are fully prepared for scientific research; teaching in the various fields related to mathematics or interdisciplinary fields such as the computer sciences, information sciences and insurance, as well as high tech companies; and, applied research in the areas of research and development or management. Some graduates can also further their studies by pursuing MS and

Ph.D. degrees in mathematics or other related subjects; outstanding undergraduates can be recommended to continue for Master's degree without taking the qualifying examinations.

Approved by the Academic Degree Committee of the State Council, the School of Mathematical Sciences is able to confer Doctoral degrees to students in every field of the mathematical sciences as long as the student has completed the required courses and a dissertation, and meets the requirements for Ph.D. degree. The School offers a total of 145 courses for students. Each year the School enrolls 30 Doctoral candidates, 50 to 60 Master's candidates, and 160 undergraduates, as well as 60 students for a professional degree. Presently, there are 87 Doctoral students, 127 Master's students, and 548 undergraduates students in this School. The School have some dozen of post-doctoral fellows to carry out research for two years. Additionally, in order to contribute to advanced research and teaching personnel for the nation, each year the School hosts a certain number of visiting scholars and teachers.

Outstanding Faculty and Excellent Research Environment

The School of Mathematical Sciences has a contingent of teachers and researchers with extensive research interests, profound knowledge, and well-knit scholarly work. The School has over 100 teachers, among which 7 are members of the Chinese Academy of Sciences, 2 are members of the Third World Academy of Sciences, 68 are full professor, 32 are associate professors, and 5 are Research Fellows. The School not only has a number of senior professors who are outstanding scholars and academic leaders in mathematical circles around the nation such as Jiang Boju (Topology), Kung-ching CHANG (Analysis) but also a number of capable middle-aged teachers, who have high academic attainments and are specialized in different fields, comprising the mainstream in research and teaching. More gratifying is that, since the mid-1980's, a large number of young scholars, who have obtained Doctoral degree from foreign universities in the USA and Europe, have joined the School. These young scholars are experienced and knowledgeable, very active in research, and full of vigor and vitality. With the support and assistance from senior faculty members, these young scholars play an important role in research and teaching; some of them have become academic leaders in their respective fields.

In order to improve the quality of teaching and the level of research, faculty members in the School are active in writing books, publishing approximately 220 coursebooks, monographs and translation works between 1980 to 1997. In the past decade, 11 coursebooks written by experienced professors have won various awards, including two national prize.

Faculty members in the School have frequently obtained original research results and published numerous academic papers; dozens of their research findings have received high acclaim in the academic circles. Since 1987, the School has been awarded 1 first class prize, 6 second class prizes, 6 third class prizes from the State Award for Natural Science. The School has received a number of awards for science and technology progress from other ministries as well. Furthermore, two professors in the School have won the Award in Mathematics of the Third World Academy of Science, three professors have won award of HeLiangHeLi Foundation Science and Technology Progress, and three professors have won S.S. Chern Award in Mathematics.

Faculty members have a wide range of research fields including dynamical system, nonlinear analysis, harmonic analysis, complex analysis, topology, group theory, algebraic number theory and algebraic geometry, graph theory, combinatorial mathematics, differential equation, differential geometry, mathematical physics, information science, computational mathematics, probability and statistics, etc.

Peking University Library has a large collection of mathematical books and periodicals, which ensures the fulfillment of scientific research and training personnel. In order to further its command in modern scientific research methods and strengthen students' skills of using computer, the School set up four laboratories: Central Laboratory, Statistics Laboratory, Scientific and Engineering Computation Laboratory and Information Laboratory. These laboratories are mainly used by faculty members and graduate students. The Computer Center of Peking University provides excellent computer services for students.

International Cooperations

Since 1978, the School of Mathematical Sciences (including the former Department of Mathematics and Department of Probability and Statistics) have sent over 100 faculty members to countries and regions including the United States, United Kingdom, France, Germany, Italy, Australia, former Soviet Union, Russia, Spain, Netherlands, Belgium, Sweden, Finland, Poland, Japan, Republic of Korea, Canada to study and/or conduct cooperative research. The School has also sent dozens of scholars outside the country each year for short term visiting or attending international conferences. In the meantime, the School tries every possible way to invite world renowned mathematicians to give lectures, numbering around 20 every year. For instance, the famous mathematicians and Wolfe Award winners S.S. Chern, F. Hirzebruch, K. Ito, as well as Fields Award winners S. Smale and Shing Tung Yau, and others have been invited to give academic lectures at the School of Mathematical Sciences. Furthermore, S.S.Chern and Fan Ky are Honorary Professors of Peking

University; C. Asano, Shui Kee Chow, P.Griffiths, L. De Haan, C.C. Lin, Shing Tung Yau are Guest Professors of Peking University.

Sending faculty abroad for advanced study and inviting renowned mathematicians to give lectures ensures that the School will remain abreast of the latest research findings and developmental trends in international mathematical research and teaching. Consequently, this promotes international academic exchanges and cooperations, and acts as an impetus for enhancing the School's scientific research.

Excellent Students

Highlighted by the first class teaching and research environment, strong faculty, and glorious history, the School of Mathematical Sciences attracts the most outstanding students from all over China. Excellent students have ensured the first rate quality of the School of Mathematical Sciences. Among the winners of the Nationwide Mathematics Contest in the past years, many were enrolled into this School. For example, among the 1997 freshmen, 6 are gold medal winners and 1 a bronze medal winner of the International Mathematics Olympic. Many excellent students in the top middle schools around the country also applied for the School of Mathematical Sciences; for instance, 6 students out of those who had won gold medals in Nationwide Mathematics Winter Camp, who had been selected into the National Training Team, applied for the School in 1998 alone.

The School of Mathematical Sciences has a very good environment for fostering young talents; meanwhile, it has established a number of scholarships for students including the Three-A Students Scholarship, Freshmen Scholarship, Model Student Scholarship, Outstanding Students Scholarship, Guanghai Scholarship, Aetna Scholarship, Huikai Scholarship, Orient Overseas Container Line Ltd. Scholarship, , Baoshan Iron and Steel Company Scholarship, P & G Scholarship, Huawei Scholarship, Jiang Zehan Scholarship, Xu Baolu Scholarship, Nine-Chapter Mathematics Scholarship, etc. In addition, the School of Mathematical Sciences established special scholarships such as the "Promoting China Scholarship", with an annual fund of 180,000 Yuan RMB, and the "Talents Project Fund in Year 2002" with a total sum of 200,000 Yuan RMB.

The School of Mathematical Sciences at Peking University enjoys a glorious tradition, strong faculty, and excellent academic atmosphere. It is the best place for people deeply engrossed in mathematical sciences; it is a sacred place for scholars engaged in mathematical sciences and computer science research; and it is the first choice for students at the start of their careers.