Mathematics in the Academy

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The Institute of Mathematics of the Polish Academy of Sciences is a research center established by the Polish Government on 20 November 1948, originally called the State Mathematical Institute

According to a plan developed in 1945 by Professors K. Borsuk, B. Knaster and K. Kuratowski, this Mathematical Institute was divided into sections which corresponded in principle to the different fields of mathematics. From the very beginning, the research center has had a Central Mathematical Library and a publications department coordinating mathematical publications throughout the country.

Most of the distinguished Polish mathematicians were employed by the Institute at some stage of their scientific career. Many of them occupied the posts of branch and section heads. One of the essential features of the Institute is its nationwide character. While the main branch of the Institute is located in the country's capital, the Institute also has branches outside Warszawa in: Kraków, Gdańsk, Katowice, Łódź, Poznań, Toruń and Wrocław.

The State Mathematical Institute was incorporated into the Polish Academy of Sciences in 1952, and it has been known by its present name since that time.

The Stefan Banach International Mathematical Center was established as part of the Institute in 1972, at the initiative of the Institute itself, headed by Professor Czesław Olech, and on the basis of an agreement between the Academies of Sciences of Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Romania, and the USSR. The aim of the Center was to promote and stimulate international cooperation in mathematics, especially between the East and West. This agreement between the Academies was terminated in 1993, but the Center gained new prospects due to cooperation with the European Mathematical Society. New forms of activity are continually added, including workshops, symposia, conferences, and research groups. Special emphasis is laid on the interaction of different fields of mathematics and interdisciplinary meetings. In the years 1972 – 2003, the scientific meetings of the Banach Center brought together more than 8,500 participants from all over the world.

Research at the Institute of Mathematics

At present, research concentrates on the following disciplines: algebra and algebraic geometry, biomathematics, differential equations and optimization, dynamical systems, foundations of mathematics, functional analysis, mathematical analysis, mathematical physics, number theory and cryptology, numerical analysis, statistics, probability, topology.

The Institute's scientific staff of 80 mathematicians includes 40 full professors (among them 8 full members of the Polish Academy of Sciences) and 20 associate professors.

As a part of a program of cooperation with various mathematical centers in Poland, each year the Institute offers special one-year research positions for the active mathematicians selected via open competitions, especially promoting gifted young researchers.

The Institute hosts more than 35 scientific seminars, organizes international conferences (mainly through the Banach Center) as well as scientific meetings of Polish mathematicians. 15 different grants financed by the Polish State Committee for Scientific Research (KBN) are currently being carried out at the Institute.

The Institute's educational activity focuses on organizing postgraduate studies in nearly all disciplines of pure

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The great Polish mathematican S. Banach (1892 – 1945) – a source of inspiration for the Institute and the namesake of the Banach International Center

IM PAN

Mathematical Research and Conference Center in Będlewo

and applied mathematics. The Institute currently hosts 20 PhD students.

The Institute co-operates closely with the Max-Planck-Institut (Bonn), Institut des Hautes Etudes Scientifiques (Bures-sur-Yvette), Erwin-Schroedinger-Institut (Vienna), Mittag-Leffler Institut (Djursholm), CIRM (Marseille) and several distinguished universities world-wide.

Under the 5th European Union Framework Programme for Research and Technological Development (FP5), the Institute has established the IM PAN-BC Centre of Excellence, the Marie Curie Training Site, and acted as a node of the Geometric Analysis Research Training Network. Under the recently launched 6th EU Framework Programme, the Institute is participating as a node in the European Network of Excellance in Cryptology (ECRYPT) and in the Marie Curie Research Training Network: Phenomena in High Dimensions PDE. Several other proposals have been submitted, some of them still under evaluation.

From the very outset, applied mathematics has been part of the research at the Institute. The first Polish computer, called "XYZ" was built here. For almost fifty years the Institute had been organizing semester-long Courses in Applications of Mathematics which have been very popular in Poland. They have been attended by more than 35,000 participants. Recently, in 2003, the Mathematical Center of Science and Technology was established at the Institute which concentrates the activities in applications of mathematics and stimulates co-operation in this field with other research and industrial organizations.

Library and publications.

The Institute's library serves as the Central Mathematical Library of Poland. The collection of books (more than 70,000) and journals (more than 1030 titles inclu-ding 650 currently in publication) ranks the library among the best mathematical libraries in the world. The holdings of the library constitute part of the National Library Resources. Readers have access to the bibliographical databases of *Mathematical Reviews* and *Zentralblatt fur Mathematik*. The library computers provide access to the full texts of 230 journals, as well as to the journal databases of Springer, Elsevier and Kluwer. An online book catalogue is still being updated, and now encompasses about 12% of the holdings.

The Institute is the publisher of the following journals and series: *Acta Arithmetica* (founded 1936), *Annales Polonici Mathematici* (founded 1954), *Applicationes Mathematicae* (founded 1953), the *Bulletin of the Polish Academy of Sciences* (Mathematics) (since 2004), *Colloquium Mathematicum* (founded 1948), *Dissertationes Mathematicae* (founded 1952), *Fundamenta Mathematicae* (founded 1920), *Studia Mathematica* (founded 1929), and *Banach Center Publications* (founded 1976). All these publications have on-line versions. Access to abstracts and tables of contents is free; access to the pdf files of articles is free for institutions that have subscribed to the printed version, upon signing an Institutional User License.

Research and Conference Center in Będlewo

In 1996, the President of the Polish Academy of Sciences designated a neo-gothic palace in Będlewo together with an almost 9 hectare land park as a place for organizing Banach Center activities and other mathematical conferences. In the following years the Institute headed by Professor Bogdan Bojarski restored the palace and constructed a new hotel building, making it possible to organize scientific meetings for up to 120 participants in a friendly atmosphere, supporting group-based research. ■