

INSTITUTE OF MATHEMATICS AND INFORMATICS

ANNUAL REPORT – 1995

INSTITUTE OF MATHEMATICS AND INFORMATICS IN 1995

The Institute of Mathematics and Informatics is a state scientific institute associated with Vytautas Magnus University. Fundamental and applied investigations are pursued at the Institute in these (major) areas of mathematics and informatics:

- probability theory and mathematical statistics,
- differential equations and numerical analysis,
- mathematical logic and algorithm theory,
- mathematical modelling of environment protection, biological, medical and control problems,
- signal processing,
- optimization,
- data analysis,
- software engineering,
- computer networks.

In 1995 scientific research work was pursued in 16 departments. Doctoral studies were coordinated by the chairs of mathematics and informatics (joint with Vytautas Magnus University).

In the lapse of five years since the restitution of independence of Lithuania, the organization of the institute considerably changed, new tasks of integrating science and studies and developing applied research for the needs of Lithuania came into being. Though the number of personnel of the institute diminished more than twice (from 424 in 1990 to 200 in 1995), nevertheless the scientific potential of the institute remained almost the same (18 dr. habil. and 94 dr. in 1990, while in 1995 there were 22 dr. habil. and 70 dr.).

In line with a long-lasting tradition, the subject of probability theory and mathematical statistics predominated both in fundamental and applied investigations. On the one hand, about 35 scientists of the institute are specialists in the probability theory, on the other hand, the problems of this trend arise in most of data analysis, signal processing, and optimization investigations. Investigations in the areas of linear and nonlinear differential equations and their numerical analysis, global optimization, signal processing, and neural network analysis got considerably extended. 279 scientific works were published and 293 were submitted to print in 1995.

The international cooperation of the institute got extended, too. Scientists of the institute took part in 6 international programs (COPERNICUS, TEMPUS, etc), executed a joint project (VEIG) with the Center for Mathematics and Informatics of Amsterdam, several specialists

worked at scientific centers of the USA, Canada, Brazil, Norway, Germany, Italy, Netherlands, 80 reports were delivered at various international conferences.

The institute is in developing the works aimed at the needs of Lithuania. A scientific and methodological assistance is rendered and joint work is undertaken with the state statistical department of Lithuania in analyzing and reorganizing state statistics. The work of transferring national decorative weaving patterns, songs, folklore, Lithuanian language into multistage electronic media is carried out. Since 1994 the scientists of the Recognition processes department have been successfully participating in the UNESCO program “Information for the Humanities” being engaged in the UNESCO Chair for the Humanities set up at the Institute of Mathematics and Informatics. The Computer networks laboratory of the institute teaches and serves a lot of users in Lithuania.

The integration of science and studies is successfully performed. About 40 scientists of the institute are lecturers at Vytautas Magnus University, Vilnius Technical University, Vilnius Pedagogical University, Klaipėda University, Vilnius University, thereby essentially consolidating the pedagogical potential and updating the programs of studies of these universities. By extending this field of activities, the Institute has a good opportunity to become an inter-university Center for science and studies.

The Institute has joint doctoral studies in the areas of mathematics, informatics, statistics, and systems analysis together with Vilnius University, Vilnius Pedagogical University, Klaipėda University, Vytautas Magnus University. As of December 31, 1995 there were 15 doctoral students at the institute. A great work is done in reorganizing doctoral studies and innovating the programs of studies.

In 1993 Government of Lithuania gave the right to our Institute to confer dr. habil. degrees in informatics (together with Vytautas Magnus University and in mathematics. In this period 4 dr. habil. theses have been maintained.

The Institute is the publisher of two scientific journals: “Lietuvos Matematikos Rinkinys” (together with the Vilnius University and Lithuanian Mathematical Society) and “Informatica”. The Institute also publishes an information-methodological journal “Informatika” devoted to people at large.

The Institute endeavours to preserve the status of one of the major scientific centers for mathematics and informatics in Lithuania.

Chairman of Senate
V. Statulevičius

Director
M. Sapagovas