12.1 Creation of the Division of Information Technology
by J.Szlachciak

The effort taken by IT team in the area of developing IT infrastructure has been recognized. Division of Information Technology was created in the beginning of 2005. The main responsibilities of the Division are as follows:

1. Assurance of proper functioning of Local Area Networks in the Institute;
2. Assurance of uninterruptible access to the Internet;
3. Management and development of network services;
4. Maintenance of security of IT systems;
5. Custody of the computer equipment and software including license upgrade and management;
6. Preparation of technical specifications for bids related to purchasing of computer and network equipment and software;
7. Technical support in the area of computer equipment and software;

12.2 Improvements in the Computer Infrastructure
by J.Szlachciak, C.Górny, P.Lorencki

Several improvements in the Institute computer infrastructure were done in 2005 and 2006.

A new server room has been constructed. It is equipped with an air-conditioning system and a fire detection system. All main servers and the core of network devices have been moved to the server room. This helped to lower the maintenance costs and improve manageability over the crucial central computer and network resources as well as to improve the security.

Two new internet-based electronic banking systems have been put in operation. The systems have improved the accounting and banking transactions performed between the Institute and two main banks.

The Institute continued a process of acquiring required software licenses. The number of licenses for Norton Enterprise and Corporate Antivirus, Symantec Gateway Security SGS 5420 firewall, Adobe Acrobat and Microsoft Office Professional has been increased. New licenses for the following utility programs have been purchased:

1. Autodesk Inventor Professional – 2D/3D mechanical design software;

In order to increase network and email security two software packages have been purchased: GFI LANguard Network Security Scanner and GFI MailEssentials.

The functionality of the system for dynamic collection of hardware and software inventory based on logon scripts has been extended by detection of the installed Anti-spyware software, Internet browsers (Internet Explorer, Firefox, Opera), Java Runtime Environment, Internet communicators (Skype, Gadu-Gadu), file manager Total Commander and an ability of installation of software patches.

The free CPU-Z program has been used for automatic inventory of processor parameters, installed mainboard, version of BIOS and installed memory chips on all computers running Microsoft Windows operation systems.

12.3 Development of the Scientific Activity Database
by S.MałeK, J.Szlachciak

The Database of Scientific Activity was created for collecting and reporting information about any activities of scientific staff of the Institute. The main idea of this project was to store general scientific information in one, central place and present and process it in different ways.

During development of this software we planned to make it as user friendly as possible. Users should fill only a couple of fields in a form to enable everybody to generate formatted reports with scientific activity information.

The application includes 13 fields of activity such as publications, participation in conferences, seminars, didactic and R&D activities, scientific degrees, rewards, participations in councils and scientific organizations, science popularization etc, so everybody can place all kind of information about his work-related activities.
The main part of this Client-Server Internet Application is an interface which was written in a PHP script language. This PHP-technology application was designed for communication with a MySQL database server, where all data are stored. In order to use it our application must be running on a WWW server (in our case - Microsoft IIS 6.0) with PHP parser service which generates HTML code from php source code files. The HTML code is enriched by CSS and JavaScript elements for making the interface more users friendly. The source code consists of about 9000 code lines in 130 files and 36 SQL tables in a relational database.

Developing it as an internet application was a big step forward for making it a very universal and software and hardware independent project. In consequence the system requires only a web browser to interact with. The next, very important advantage is simplicity of the software upgrade. It only requires implementing changes on the WWW server without any action on the users’ computers.

Using PHP and MySQL technology is very economically efficient because both of these technologies are under the GNU General Public License what means that one can use it free of charge. We additionally implemented three extra modules, also under the GNU GPL license: PHPMailer for mailing operations, WYSIWYG editor named Tiny MCE and PHPMyAdmin, a tool intended to handle the administration of MySQL server over the Web.

Developing process started 1 September 2006 and after 2 months we launched a beta version on a test server. The next step was training sessions for future users of this application. Now we are running two independent servers: one for test purposes and the second as a production server.

The collected data were used for generating individual and departmental reports and also this Annual Report 2006.