

Systems Research Institute

Polish Academy of Sciences



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The Systems Research Institute of the Polish Academy of Sciences belongs to the group of the most active institutes of the Academy. It employs 115 persons of whom 77 are researchers.

The computer network of the Systems Research Institute is build of Sun Sparc machines and PC computers. The Institute's network is permanently connected to the Internet.

The Institute's library, specialised in system sciences and control theory, applied mathematics and interactive computer systems offers about 40,000 volumes including some 600 periodicals and 4,500 research reports. It subscribes currently to 250 titles of journals.

The Systems Research Institute is located close to the centre of Warsaw. It is easy to reach this site by bus from the Warsaw Airport and by tram from the main railway station.

The basic areas of the Institute

Information Technology (IT)

- ❖ Intelligent systems
- ❖ Fuzzy logic
- ❖ Decision support systems
- ❖ Quality control and quality management
- ❖ Multi-criteria decision making
- ❖ Agent systems
- ❖ Decision support in the presence of risk

The basic areas of the Institute

Systems Analysis (SA)

- ❖ Environment protection systems
- ❖ Management and organisation systems
- ❖ Regional modelling
- ❖ Air pollution transport models
- ❖ Regional agricultural policy models
- ❖ Water supply and treatment network algorithms
- ❖ Computer models and identification

The basic areas of the Institute

Mathematical Modelling and Optimisation (MMO)

- ❖ Modelling and optimisation of dynamical systems
- ❖ Optimisation methods and algorithms
- ❖ Stochastic methods
- ❖ Mathematical modelling and control in economical systems
- ❖ Financial mathematics

Experience in Education Services

- ❖ Cooperation with Warsaw School of Information Technology – the majority of SRI PAS scientists are involved in lectures and laboratories
- ❖ Cooperation with Hewlett Packard Poland: carrying courses on operating system HPUX (UNIX for HP computers), LAN administration, computer network management with Network Node Manager software, programming in C, C++, Posix and other languages, network security, building firewalls, high-availability system
- ❖ Polish Telecommunication Company (a public joint-stock company, the main provider of telecommunication services in Poland): elaboration of educational programs for management and staff in marketing and finance

Contribution to EQUAL

Main prerequisites:

- ❖ high-level expertise in several IT domains on the side of staff of the Systems Research Institute
- ❖ widespread lack of skills related to IT on the “intellectual” side, as opposed to, or as an extension of the simple “technical” capabilities (i.e. what a valuable thing can a computer do for me rather than how can I use computer [for fun])
- ❖ a portfolio of skills closely related to IT and “information society”, which
 - form a coherent whole
 - but at the same time can be treated as self-standing specialisations,
 - can be further developed as high-level specialisations

Contribution to EQUAL

Main prerequisites (continued):

- ❖ a set of courses, which involve active role of the participants
- ❖ possibility of stages, consisting in contribution to solving of definite problems with the methodology and the set of tools taught at the courses
- ❖ tracking of the life paths of selected participants, with the possibility of assistance in the subsequent steps.

Courses offered in the framework of the RENOWATOR Partnership's activity

- ❖ Data Analyst
- ❖ Market Analyst
- ❖ Customer Needs Analyst
- ❖ Advisor for Tenders
- ❖ Advisor on Logistics
- ❖ Designer of Information & Organisation Systems
- ❖ Project Management Specialist
- ❖ Advisor on Planning & Assessment of Investment Projects
- ❖ Feasibility Study Preparation Specialist

Exemplary abbreviated course descriptions

The tasks of the DATA ANALYST -

aids enterprise managers by performing the following duties

- ❖ gathering appropriate data concerning important aspects of enterprise management
- ❖ preparing input of the data and preliminary handling of the data for further analysis
- ❖ presenting gathered data with graphs and methods of descriptive statistics
- ❖ preparing presentations and reports for managers
- ❖ further data analysis – finding market trends, seeking out dependencies in the variables, recognizing changes in the structure of processes and presenting appropriate conclusions
- ❖ writing reports and summaries for the conducted analysis
- ❖ making corrections of the analysis based on new data inflow

MARKET ANALYST

- ❖ Market analysis should indicate inappropriateness of entering certain markets, where competition is particularly sharp, but also the places, where competition is thin (in geographical and economic sense).
- ❖ The work of a market analyst leads, in particular, to the recommendations as to the desired features of market strategies.
- ❖ Basic components the analyst's work, taught at the course:
 1. design of analysis, and especially of the information sources, including the complementary and counter-checking ones, the methods of information processing and drawing of conclusions;
 2. data acquisition (perhaps as a routine activity);
 3. information processing;
 4. analysis;
 5. synthesis in the form of conclusions tangible for management, especially of strategic meaning.

ANALYST OF CUSTOMER REQUIREMENTS

❖ Quality of products is a key factor if a company wants to be successful in a free market economy. Quality is also the main criterion if the company wants to be a subcontractor of a foreign firm. The competitiveness can be dramatically increased if one can quickly define customer needs and then translate these needs into technical parameters of a product.

❖ The analyst of customer requirements is a liaison between marketing and quality department.

❖ His/her duty is:

- to do research on customers' activity,
- to get their opinion,
- to collect their needs and to point those features of a product that influence the customer satisfaction.