

**30 years
DEPARTMENT OF COMPUTING
at the University of Rouse.
5 years
ACADEMIC SOCIETY
OF COMPUTER SYSTEMS AND INFORMATION TECHNOLOGY**

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As you know, this fifth international CompSysTech conference is dedicated to the 30th anniversary of the Department of Computer Systems and Technologies of Rouse University and to the 5th anniversary of the ACADEMIC SOCIETY OF COMPUTER SYSTEMS AND TECHNOLOGIES. On such occasions it is common practice to read lengthy and boring academic addresses which slowly but surely send the audience to sleep. We shall try to somehow depart from this tradition.

In 1974, after the setting up of the Faculty of Electrical Engineering and Electrification of Agriculture at the Higher Institute of Machine-building, Mechanization and Electrification in Agriculture of Rouse, a department of Computer Engineering was established by the decision of the Academic Council. At the outset, it was headed by Assoc. Prof. Vasil Filipov, a lecturer with great pedagogical and organizational experience. It was only recently that the degree of HONORARY PROFESSOR OF ROUSSE UNIVERSITY was conferred on him.

A group of newly graduated engineers from the Kiev Polytechnics, who had done the same degree course, was appointed at the department to work as trainee assistant professors.

The department started developing rapidly. The role of the Department of Computer Engineering at the Higher Institute of Mechanical and Electrical Engineering of Sofia was crucial at this early stage. It rendered invaluable assistance in selecting and training the academic staff and devising the curricula and syllabuses, as well as in preparing the lectures and seminars for the specialist subjects taught by the department.

The department was in turn headed by Assoc. Prof. Emil Ratz, Assoc.Prof. Irina Zhelyazkova, Assoc.Prof. Gitko Angelov, and Principal Assistant Sima Navassardiyan

For a relatively short period of time it was my honour and privilege to lead this wonderful team. At present the Department is run by Assoc.Prof. Angel Smrikarov.

It is well known that over the last 30 years the operational speed of computers has grown by more than 5000 times. Generations of computing machines have changed every 5-6 years. And did the Computing Department of Rouse manage to keep pace with these developments? We can answer positively and without hesitation.

The Department was among the first to be equipped with single-chip microprocessor systems based on the Bulgarian microprocessor CM601 and with advanced systems of the I3OT 220 type. They were followed by "Pravets" 8, "Pravets" 16, PC AT 286, 386, 486 and so on, to arrive at the Pentium-based computers. Due to the active participation of the Department in various national and European programs it was able to periodically re-equip its teaching laboratories. At present each laboratory has a minimum of 8 working places

with Pentium PCs. The offices of all lecturers have been equipped with such PCs too. Something in excess of 100 computers have been networked with fast access to the INTERNET.

The power of the departmental servers has been growing rapidly and steadily.

The development, acquisition and study of specialist teaching hardware and software have never stopped.

The material resources available at the moment enable the study of modern single-chip microprocessors, microcomputers and transputers as well as of DSP and ASIC. Similarly the latest versions of the most popular operating systems, development environments and other applications are in use. At present the Department has two well-equipped multimedia laboratories – one of them serving as a teaching laboratory and the other as a research laboratory. Students have free access to the training resources of the Department.

The Department devised new curricula for the Bachelor and Master Degrees of Computer Systems and Technologies. They have been harmonized with the curricula of analogous degree courses in EU countries and in 2002 they were updated and published in English.

The majority of the specialist subjects provide lecture notes and instruction booklets for the practical sessions, both as hard copy, electronic or web-based versions.

Currently, the Department works along the following main scientific lines:

- Automation systems for telephone services;
- Computer-aided engineering and research;
- Artificial intelligence systems;
- Intelligent tutoring systems;
- Innovative educational technologies.

Over the last year the Department ranked first in the University as to the volume of research and development contracts signed. The results from the R&D activities of both lecturers and students of the Department have been adopted in Germany, the Czech Republic, Hungary, Russia, Lithuania, Byelorussia and almost all over Bulgaria.

It is very likely that in the near future the Department will start exporting developments to the UK.

For many years the Department has occupied one of the leading places at the University as to the number of recognized and adopted inventions. Many of the developments have been incorporated in the teaching process.

But the main asset of the Department is its academic staff, a total of 26, of average age under 40. And this is a very essential pre-requisite for efficient work in teaching, research and development, and introduction of innovations in such a dynamic sphere as computing. Of course there is always a “but” and in this case it is the relatively small number of associate professors and doctoral students. But the Department has created the necessary conditions for resolving the problem and will continue to do so with both its own resources and the assistance of associate professors from related departments of the other technical universities. Or, to put it differently, if the top priority for the Department until recently has been the upgrading of the material resources in line with the modern requirements, from now on a major priority will be the further development of the potential

of the academic staff. It is for this particular purpose that the Department is preparing funding applications for the research activities of the Department under such EU-funded programmes as the Sixth Framework Programme and some others. To date, the number of doctoral students studying in the Department is 16, which is a further pre-requisite for the successful solution of the task in hand.

It is worth noting that during its period of existence the Department has educated and trained more than 2500 engineers (holders of MEng degrees), the majority of whom work in their field of study. Indeed, a significant number work out of Bulgaria and assist in the process of computer development in practically every continent.

For the purpose of improving the quality of teaching of both undergraduates and PhD students the Department participated in both competitions announced by the KCOYBO (Competitive System for Training and Managing Higher Education) Centre. Both projects were ranked first amongst around 250 projects from the whole country.

The Department maintains and continually expands its contacts with different EU partner universities under the SOCRATES programme. For the current academic year only, 21 undergraduates, 5 doctoral students as well as 16 lecturers were sent to do a period of study in 11 such universities. A new ECTS package was compiled and published which was evaluated highly by the university authorities but also by the ECTS councilors, representatives of the European Association of Universities and of the European Commission.

The Department was the initiator and coordinator of the TEMPUS project titled "RESTRUCTURING DEGREE COURSES IN COMPUTING", under which our department acted in concert with the related departments of the Technical University of Sofia, Technical University of Plovdiv, Technical University of Varna, Technical University of Gabrovo and the universities in Plymouth, Liverpool, Berlin, Pavia and Ioannina.

As a result of this project there was created the infrastructure of an ACADEMIC SOCIETY OF COMPUTER SYSTEMS AND TECHNOLOGIES which at present plays a crucial role in the development of the IT culture in Bulgaria. One of the first significant acts of the Academic Society was the renewal of the Conference on Computer Engineering and Science but under a new name as the Conference on Computer Systems and Technologies - CompSysTech.

Another project of the department titled "EUROPEAN COMPUTER EDUCATION AND TRAINING" started in 2001 and it currently involves 65 universities and companies from 29 European countries.

We are expecting the decision of Brussels on a new 3-year project titled "DOCTORAL EDUCATION IN COMPUTING", for which volunteered 72 universities and companies from 30 European countries.

In the mean time we made the first "break" in the USA. The State Department approved and already financed a project called "REGIONAL DEVELOPMENT MANAGEMENT", on which we work together with colleagues from the Business and Management Faculty.

Within the EU-funded projects initiated and coordinated by our Department over the last 10 years, 200 lecturers from related departments all over the country were sent on

study trips to EU universities for various periods of time. Computer and other equipment at the cost of over 100 000 EURO was provided as well.

A very specific evaluation of our work in this respect is the award which was given to us by IBM at the beginning of this year. We take this opportunity to express our special gratitude to Dr Jennifer Trelewicz, representative of IBM for Eastern Europe and Russia. With Dr Trelewicz's approval this award will be used to finance two research projects of the University as well as the present conference.

A qualitative leap in the development of the Academic Society of Computer Systems and Technologies occurred after the latter established cooperation with **the Agency for "ICT Development"** run by Mr. Orlin Kuzov.

In 2002, in response to the E-learning initiative of the European Commission, the Agency and the Academic Society initiated and started work on a national project for the purpose of developing virtual learning environment in Bulgaria.

For less than two years, as a result of their joint efforts, the following things were created:

Model of a web-based course.

Model of a virtual laboratory.

Software platform for electronic learning which is now used in ¼ of all the universities in the country, as well as in some universities outside Bulgaria.

Pilot virtual department of computing named after "John Atanassoff" which unites departments of computing from 11 universities and 4 computing-oriented research institutes of the Bulgarian Academy of Sciences.

Within this project, using funding allocated by the Agency and the Ministry of Education and Science, more than 50 computer rooms for e-learning were equipped in universities and institutes all over the country, all bearing the name of "John Atanassoff".

Under an Agency project the members of the virtual department were connected in an integrated communication environment at a speed of 1-2 Mbits and were given access to the Pan-European Research Network GÉANT.

The end of last year saw the establishment of a Virtual Faculty of Information and Communication Technologies with 3 virtual departments, which involve 19 universities and 11 institutes.

The Agency and the Academic Society are about to make the next step in developing the virtual learning environment in Bulgaria. On 16th April, a committee consisting of emblematic figures from the fields of education, science and business came up with the initiative of establishing a **BULGARIAN VIRTUAL UNIVERSITY** and addressed a letter with this suggestion to the rectors of all Bulgarian universities, as well as to the directors of all the research institutes of the Bulgarian Academy of Sciences. So far the majority of those addressed have answered positively to the suggestion for inclusion in this project of national importance.

The web-site of the virtual university is already being constructed.

The logo prototype is ready too.

Initially the BULGARIAN VIRTUAL UNIVERSITY will be a National educational portal attached to all universities in the country but gradually its autonomous functions and importance will grow with time.

The first independent unit of the BULGARIAN VIRTUAL UNIVERSITY will be the Virtual INFO center for doctoral students which is being developed jointly with the Higher testimonial committee and is currently being used by the doctoral students in the country.

Following a suggestion of the Bulgarian Academy of Sciences the Department and its partners will establish a virtual centre for continuing education too.

The establishment of the BULGARIAN VIRTUAL UNIVERSITY will introduce Bulgaria to the virtual learning environment of Europe as well as to the e-learning programs of the European Commission.

In conclusion I would like to emphasize that in the future too the Department of Computing at the University of Rousse will be an integral part of the Academic Society of Computer Systems and Technologies and that it will do its best to work for strengthening its positions and further development.

As until now and from now on too, the motto of the Rousse Department of Computing will be "UNION IS STRENGTH"

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