

International Conference on Computer Systems and Technologies *CompSysTech'10*

On June 17 and 18 in Sofia hosted the eleventh in turn **International Conference on Computer Systems and Technologies *CompSysTech'10***. Co-organizers of this significant scientific event are the Academic Community of Computer Systems and Technologies, whose collective members are the departments of the same name from Sofia, Plovdiv, Varna, Gabrovo, Veliko Tarnovo and Ruse as well as the computer oriented institutes of the Bulgarian Academy of Sciences (BAS) and the Association for Computing Machinery. Patrons of the conference are the European Commission through its Life-Long Learning Programme and Seventh Framework Programme, the Bulgarian Ministry of Education, Youth and Science and Bulgarian Academy of Sciences. Only papers with three favourable reviews from members of the Programme Committee, which includes leading scientists from around the world, were allowed.

The Plenary Session was opened with a greeting address on behalf of the Minister of the Education, Youth and Science Sergei Ignatov. The participants were also greeted by Academician Vasil Sgurev - President of FNTS and UAI



**To the PARTICIPANTS
in the CompSysTech'10**

DEAR COLLEGES,

First I would like to thank the Programme and Organizing Committees of the International Conference on Computer Systems and Technology ***CompSysTech'2010*** for inviting me to its opening.

The Ministry of Education, Youth and Science considers that convening such a conference in the first decade of the 21st century, which is announced as a **Century of the Information Technologies**, is more than necessary. That is why for 11 years in a row the Ministry has supported the idea of **the Academic Society of Lecturers in Computer Systems and Technologies** and agreed to be a patron of the conference.

Today, when the Computer Systems and Technologies penetrate deeper and deeper in all spheres of the human activities, it is of great importance to strengthen and deepen the links between scientists and specialists working in this area, to accelerate the exchange of information about research and development results. This exactly is the objective of ***CompSysTech'2010***.

This is the 11-th edition of the conference, but it has already received international publicity and recognition. An evidence for this is the fact that the conference was included in the events calendar and in the digital library of one of the biggest and most influential scientific organisations in the computer field, namely the Association for Computing Machinery, as well as the participation of many scientists from European countries.

During these 11 years Your Society has strengthened its positions as a working Academic Society and initiated projects with a national and European importance. The Ministry of Education, Youth and Science evaluates very positively the EUROPEAN THEMATIC NETWORK PROJECT "TEACHING, RESEARCH, INNOVATION IN COMPUTING EDUCATION", which unites 70 institutions of 31 European countries. The fact that Bulgaria and namely the University of Ruse has been selected to coordinate such a large scale project is a great honour but most of all a great responsibility. The main goal of the project is to strengthen the links between the universities, research institutes and computer companies and the conference being opened today is a great opportunity for such contacts.

As a conclusion I wish all the participants in the conference a good health and a creative work!

Sergei Ignatov

Minister of the Ministry of Education, Youth and Science

The Plenary Session comprised of the following papers::

- Topology control algorithms for wireless sensor networks: a critical survey
Yannis Manolopoulos, Dimitris Katsaros, Alexis Papadimitriou
Aristotle University, Thessaloniki, Greece
- Anthropocentric Video Analysis for Film and Games Postproduction
Ioannis Pitas
Aristotle University, Thessaloniki, Greece
- Computer-Aided Construction of Concurrent Systems
Martin Vechev
"IBM T.J. Watson Research Center", New York, USA



After the Plenary Session the participants had a social evening at the congress restaurant of the Hotel "Rodina".



The papers - a total of 97 - were allocated in seven sections:

- Computer Systems (Hardware) - 5;
- Computer Systems (Software) - 21;
- Application Aspects of Computer Systems and Technologies - 30;
- Educational Aspects of CST Computer Systems and Technologies - 18;
- Biometrics - 2;
- PhD Students' Section - 9;
- Students' Section - 2;
- High-School Students' Section - 5.

The Conference Programme also included a Mini symposium on Astroinformatics, which comprised of 5 papers.

Scientists for 29 European countries participated in the conference with papers or as listeners.



Following nominations by the section chairpersons, the Programme Committee awarded a **"BEST PAPER"** crystal prize and honorary diplomas to the authors of the plenary reports as well as the following papers:

Section 1 "COMPUTER SYSTEMS (Hardware)":

- Ultrasonic Device for Non-Contact Studying of Materials
Raycho Ilarionov, Ivan Simeonov, Hristo Kilifarev, Stanimir Yordanov, Nikolay Shopov, Hristo Ibrishimov

Section 2 "COMPUTER SYSTEMS (Software)":

- Learning Systems as Ontology-based Learning Object Repository
Korneliya Yordanova
- Towards Programming on the Moving Threads Architecture
Jari-Matti Mäkelä, Ville Leppänen

Section 3-A "APPLICATION ASPECTS OF CST":

- Performance and Emission Optimization of Diesel Engine by Single and Multi-Objective Genetic Algorithms
Kemal Tutuncu, Novruz Allahverdi
- An Approach for Node Identification and Key Management in Sensor Grids
Iliya Georgiev

Section 3-B " APPLICATION ASPECTS OF CST":

- EmoReSp – An Online Emotion Recognizer Based on Speech
Iulia Lefter, Pascal Wiggers, Leon J. M. Rothkrantz
- Module for Investigation of the User's Text Reading Speed on Mobile Devices
Tsvetozar Georgiev, Evgeniya Georgieva

Section 4 "EDUCATIONAL ASPECTS OF CST":

- Development of the Scoring Mechanism for the Concept Map Based Intelligent Knowledge Assessment System
Alla Anohina-Naumeca, Maija Strautmane, Janis Grundspenkis
- U-Search: A meta engine for creation of knowledge paths on the web
Marco Alfano, Biagio Lenzitti

Section 5 "BIOMETRICS":

- Stress Assessment of Car Drivers Using Eeg Analysis
Paul van den Haak, Rinde van Lon, Jaap van der Meer, Léon Rothkrantz

Section 6 PhD STUDENTS:

- Adaptive Web-based Systems: From Framework to Implementation
Bujar Raufi, Juliana Georgieva

Section 7 STUDENTS:

- Creating Animations using Affine Transformations and Bezier Curves in the Programming Environment
Plamen Asenov, Ivajlo Bojkov, Slavi Hadjiivanov

Section 8 HIGH-SCHOOL STUDENTS:

- GProject - Platform for studying object movement
Georgi Jordanov

Workshop on ASTROINFORMATICS:

- ICP Algorithm for Alignment of Stars from Astronomical Photographic Images
Alexander Marinov, Nadezhda Zlateva

The prizes were provided by the Conference sponsors and were handed out by Assoc. Prof. B.Rachev and Prof. T. Stoilov. The awarded papers will be offered for publishing in the "Automatica and Informatics".





The awards of the PhD students, undergraduate students and school students, who participated in the conference, were handed in by member of academy P. Kenderov.



The opinion of all participants and guests of the conference is that its main goal "Dissemination of results from theoretical and scientific research in the field of computer systems and technologies" has been widely achieved.

The proceedings have been published on paper and electronically on the conference Web site - <http://www.compsystech.org/>. All papers are in English, which is a premise for their popularization, referencing and quoting by other authors.

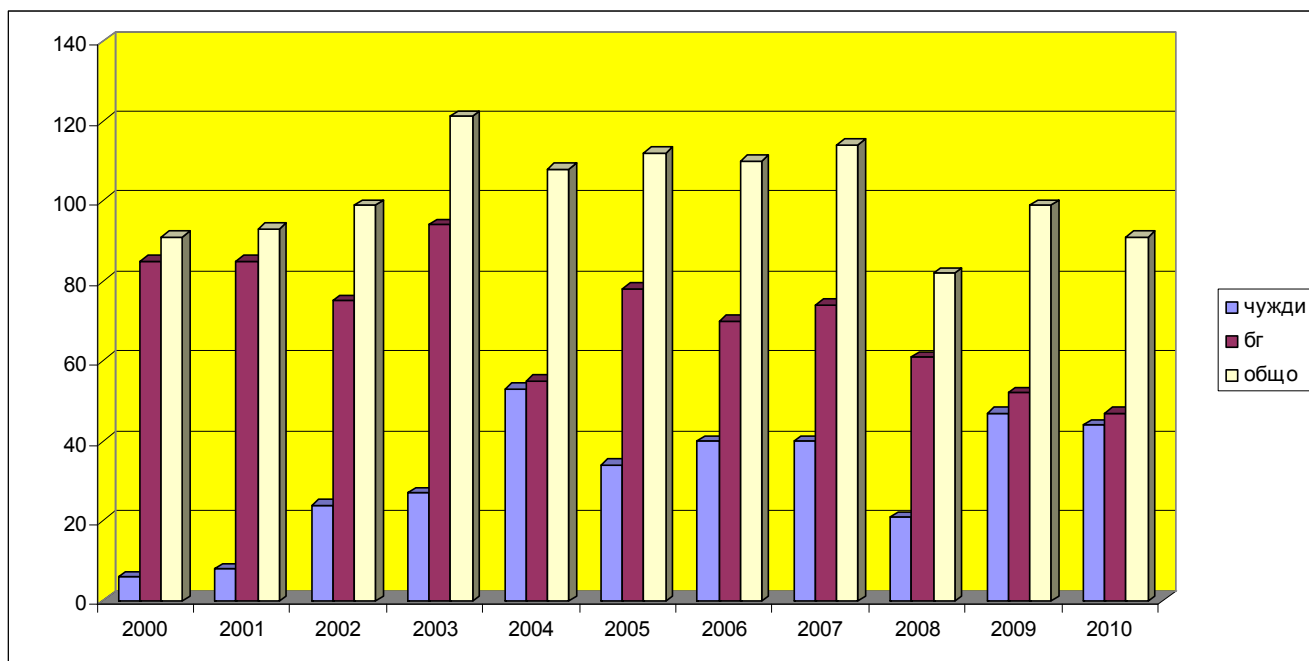
The papers are expected to be published in the digital library of the Association for Computing Machinery (ACM), as has already been done for two previous editions - in 2007, 2008 and 2009.

Nearly 25 organizations and companies from the IT business provided financial support. Some of them, such as EURORISC SYSTEMS Ltd - Varna, sponsored the conference for the tenth time. Significant support to the organizers was provided by the management of the Federation of Scientific and Technical Unions and the Union for Automation and Informatics, whose collective member is the Academic Community.

The closing session stressed on the fact that the **main goal** of the Programme and Organizing Committee is to maintain and constantly improve the reputation of the "CompSysTech" brand.

The organization of **CompSysTech'11** is already on the way. It will take place on June 16 and 17, 2011, in the city of Vienna. Information about this conference can be found on the site at this address: <http://www.compsystech.org/>. Scientists from all European countries, members of the **European Thematic Network for Teaching, Research and Innovations in Computing Education**, are expected to join in the conference proceedings.

The figure below shows the number of papers published in years.



The reduced number of accepted paper in year 2010 is because of the more strict requirements of the publisher of the papers - Association for Computing Machinery, which in 2010 for the first time allowed that its logo is printed in the conference proceedings.



**Association for
Computing Machinery**