Dear Participants,

You can use free **WIRELESS INTERNET** via hot-spot points named **CompSys** (no need of login name and password).

You can also use the **COMPUTERS** in the Centre for PhD students – main building, in the middle of the 3 floor.
COMPANY OBJECTIVE

The CompSysTech’12 International Conference is organized by THE ASSOCIATION FOR COMPUTING MACHINERY, by THE JOHN ATANASOFF SOCIETY OF AUTOMATICS AND INFORMATICS and by THE BULGARIAN ACADEMIC SOCIETY OF COMPUTER SYSTEMS AND INFORMATION TECHNOLOGIES and its OBJECTIVE is to intensify the information exchange of results in theoretical research and practical developments in this field.

CompSysTech’12 is organized under the patronage of:
- Bulgarian Ministry of Education, Youth and Science;
- Bulgarian Academy of Sciences;
- Bulgarian Chapter of IEEE Computer Society;
- Bulgarian Chapter of IEEE Communications Society.

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♦ NATIONAL ORGANIZING COMMITTEE

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  Irena Valova (Bulgaria) Boyanka Zhelyazova (Bulgaria)

♦ TOPICS

2. Computer Systems (Software).
5. The youth and the ICT

♦ Co-located Event

Mini-symposium on Astroinformatics
Friday 22\textsuperscript{th} June 2012

09:00 – 14:30
In the new building, 2.109
Registration

15:00
New building, 2.101

**OPENING**

**WELCOME**

Chair: Angel Smrikarov

**ALAN TURING**

100 YEARS FROM THE BIRTH

Kiril Boyanov

**THE ACM A.M. TURING AWARD**

Boris Rachev

**PLENARY SESSION**

Chair: Todor Stoilov

BORIS NOVIKOV
Department of Computer Science
St. Petersburg University, Russia

Lecture on:
**Querying Big Data**

Coffee Break - Foyer
MIRJANA IVANOVlĆ
Department of Mathematics and Informatics
University of Novi Sad, Serbia

Lecture on:
Software Agents: State-of-the-Art and Possible Applications

KAMEN KANEV
Research Institute of Electronics
Shizuoka University, Japan

Lecture on:
Augmented Tangible Interface Components and Image Based Interactions

DISCUSSIONS

18:00
Sightseeing of the UNIVERSITY of RUSE

19:30
Social Evening in the Restaurant “RIGA”
22 Pridunavski Blvd
SECTION 1

Computer Systems (Hardware)

Chair: Ville Leppänen
Co-Chair: Radoslav Mladenov
Scientific Secretary: Orlin Tomov

Saturday 23\textsuperscript{th} June 2012
09:00 – 09:45
New building, Hall 2.113

1. Work-Optimal Two-Phase Routing in a Sparse Optical Torus
   \textit{Risto Honkanen, Ville Leppänen}

2. Preliminary Analysis of Feasible Benchmark Problems for the Hybrid PRAM/NUMA REPLICA Architecture
   \textit{Jari-Matti Mäkelä, Ville Leppänen, Martti Forsell}

3. An Efficient Non-Volatile Main Memory Using Phase Change Memory
   \textit{Radoslav Mladenov}

DISCUSSIONS

11:00 – 11:30
Coffee Break - Foyer
SECTION 2

Computer Systems (Software)

Chair: Stavros Nikolopoulos
Co-Chair: Irena Valova
Scientific Secretaries: Ivaylo Kamenarov

SECTION 2 - SESSION 1
Saturday 23rd June 2012
09:00 – 11:00
New building, Hall 114

1. An Overview of the Knowledge Discovery Meta-Model
   Kestutis Normantas, Sergejus Sosunovas, Olegas Vasilecas

2. Semantic Lifting of Unstructured Data Based on NLP Inference of Annotations
   Ivo Marinchev

3. Use of Ontology-to-Text Relation for Creating Semantic Annotations
   Kamenka Staykova, Gennady Agre

4. Object Relational Business Process Repository
   Katalina Grigorova, Ivaylo Kamenarov

5. Performance Analysis of MQL Drilling Using Artificial Neural Network
   Sona Azarrang, Hamid Baseri, Mohamad Rajabi

6. Combining Adaptive Goal-Driven Agents with Mixed Multi-Unit Combinatorial
   Auctions
   Alexander Tarvid

   Jakub Breier, Ladislav Hudec

   Siska Fitrianie, Leon J. M. Rothkrantz

DISCUSSIONS

11:00 – 11:30
Coffee Break - Foyer
SECTION 2 - SESSION 2
Saturday 23\textsuperscript{th} June 2012
11:30 – 13:15
Main building, Hall 114

9. A genetic Algorithm Basic Approach for Software Management Project
   Milena Karova, Nevena Avramova

10. Heuristic algorithms for a particular case of resource-constrained job-scheduling problem
    Ivaylo Penev, Milena Karova, Stanislav Stoyanov

11. Multiple Encoding of a Watermark Number into Reducible Permutation Graphs using Cotrees
    Maria Chroni, Stavros D. Nikolopoulos

12. Some Cryptanalysis of a p-ary Generalized Self-Shrinking Generator
    Antoniya Tasheva

13. PRETO: A High-performance Text Mining Tool for Preprocessing Turkish Texts
    Volkan Tunali, Turgay Tugay Bilgin

14. An Idea for a Type System of Multi-Paradigm Language with Extensible Syntax
    Valeri Bogdanov

15. Spreadsheet-based Template Language Prototype for Tree Data Structure Description and Interpretation
    Ilka Serafimova

DISCUSSIONS

Lunch
SECTION 3-A

Application Aspects of Computer Systems and Technologies

Chairs: Robert Dabrowski
Co-Chairs: Georgi Todorov
Scientific Secretaries: Elitsa Arsova

SECTION 3-A - SESSION 1
Saturday 23rd June 2012
09:00 – 11:00
New building, Hall 104

1. Monitoring Java based SOA applications
   Boyan Bonev, Sylvia Ilieva

2. Data oriented challenges of Service Architectures A Data Quality Perspective
   Plamen Petkov, Markus Helfert

3. An Architectural Approach for Dynamic Web Service Composition
   Dessislava Petrova-Antonova, Sylvia Ilieva

4. SOREGENE – a software reliability modelling tool
   Maya Malakova, Aleksandar Dimov, Dimo Dimov

5. Modular Data Hiding for Improved Web-Portal Security
   Svetozar Ilichev, Valeri Ilichev

6. A Framework for Design of Cloud Compatible Medical Interfaces
   Maya Dimitrova, Siya Lozanova, Lubomir Lahtchev, Chavdar Roumenin

7. Content Interoperability between Digital Libraries for Orthodox Heritage
   Maxim Goynov, Desislava Paneva-Marinova, Radoslav Pavlov

8. Improving Software Quality by Improving Architecture Management
   Robert Dabrowski, Krzysztof Stencel, Grzegorz Timoszuk

DISCUSSIONS

11:00 – 11:30
Coffee Break - Foyer
9. Case Study - IPv6 based building automation solution integration into an IPv4 Network Service Provider infrastructure  
Nikolay Milovanov, Ivan Bogomilov  
10. Fractal and multifractal analysis of network teletraffic  
Evgeniya Gospodinova, Mitko Gospodinov  
11. Trusted Computing Architecture for Wi-Fi Protected Access 2 (WPA2) Optimization  
Swati Sukhija, Shilpi Gupta  
12. Using the Connectivity matrix for Finding Separated Routes of Information Exchange in Computer Networks  
Boncho Aleksandrov, Petko Kochevski  
13. A Simulation Study of the Throughput of a Crossbar Switch Node by Means of Periodic Input Patterns  
Tasho Tashev, Vladimir Monov  
14. An Algorithm of Non-conflict Schedule with Joint Diagonals Activation of Connectivity Matrix  
Kiril Kolchakov, Tasho Tashev  
15. Browser Extension-Based Man-in-the-Browser Attacks against Ajax Applications with Countermeasures  
SampsSa Rauti, Ville Leppänen  
16. An approach for indexing file names in a directory  
Ivaylo Atanassov  

DISCUSSIONS  

Lunch
SECTION 3-B

Application Aspects of Computer Systems and Technologies

Chairs: Virginio Cantoni
Co-Chairs: Tsvetozar Georgiev
Scientific Secretaries: Yuksel Aliev

SECTION 3-B - SESSION 1
Saturday 23rd June 2012
09:00 – 11:00
New building, Hall 105

1. Protein Structural Motifs Search in Protein Data Base
   Virginio Cantoni, Alessio Ferone, Ozlem Ozbudak, Alfredo Petrosino
2. Identification of Deformations on Smooth Surfaces
   Hristian Rusev, Ivan Buliev, Jordan Kolev
3. Automatic assessment of facial expressions using fiducial points
   Ania Wojdel, Leon Rothkrantz
4. Automated safety control by video cameras
   Iulia Lefter, Leon Rothkrantz and Maarten Somhorst
5. Simulation of Heart Rate Variability Data with Methods of Wavelet Transform
   Galya Georgieva-Tsaneva, Mitko Gospodinov, Evgeniya Gospodinova
6. RSNAVI: An RFID-Based Context-Aware Indoor Navigation System for the Blind
   Rosen Ivanov
7. A PRACTICAL APPROACH FOR AIRPORT SPATIAL MODELING
   Apostol Panayotov, Iliya Georgiev, Ivo Georgiev
8. Reducer - A Tool to reduce redundant Disk I/O
   Suhas Aggarwal

DISCUSSIONS

11:00 – 11:30
Coffee Break - Foyer
SECTION 3-B - SESSION 2
Saturday 23rd June 2012
11:30 – 13:00
New building, Hall 105

9. Investigation of the User’s Text Reading Speed on Mobile Devices
   Tsvetozar Georgiev

10. A Survey for Measuring Internet Anxiety Types
    Santosh Kalwar, Kari Heikkinen, Jari Porras

11. From social networks to public sector services: a case study of citizen participation
    in real estate
    Alenka Kern, Bojan Cestnik

12. An Empirical Model of Corporate Blog Impact in Marketing Communications
    Silvestru Catalin Ionut, Nisioiu Codrin Florentin, Intorsureanu Iulian, Bere
    Ramona Camelia, Orzan Mihai Cristian, Dan Adina Maria

13. JobScan
    Anuj Gupta, Leon Rothkrantz

    Format Files
    Antonio Maratea, Alfredo Petrosino, Mario Manzo

DISCUSSIONS

Lunch
SECTION 4

Educational Aspects of Computer Systems and Technologies

Chairs: Margarita Todorova
Co-chairs: Kostadin Kratchanov
Scientific Secretaries: Tzanko Golemanov

Saturday 23rd June 2012
09:00 – 10:00
New building, Hall 107

1. Adaptive E-learning System Based on Accumulative Digital Activities in Revised Bloom’s Taxonomy
   Hristina Kostadinova, George Totkov, Hristo Indzhov

2. Exploiting Eye Tracking in Advanced E-Learning Systems
   Virginio Cantoni, Calet Jimenez Perez, Marco Porta, Stefania Ricotti

3. Ontological Presentation of Analysis Method for Technology-enhanced Learning
   Desislava Paneva-Marinova, Lilia Pavlova-Draganova, Lubomil Draganov, Vladimir Georgiev

4. Using Control Network Programming in Teaching Nondeterminism
   Kostadin Kratchanov, Emilia Golemanova, Tzanko Golemanov, Burcu Külahçıoğlu

DISCUSSIONS

11:00 – 11:30
Coffee Break - Foyer
SECTION 5

Mini-symposium on Astroinformatics

Chair: Milan Dimitrijević
Co-chair: Dimo Dimov
Scientific Secretaries: Ognyan Kounchev

Saturday 23rd June 2012
09:00 – 09:30
New building, Hall 108

1. Serbian Virtual Observatory

2. Compressive Sensing for Polyharmonic Subdivision Wavelets With Applications to Image Analysis
   Ognyan Kounchev, Damyan Kalaglarsky

DISCUSSIONS

11:00 – 11:30
Coffee Break - Foyer
SECTION 6

The youth and the ICT

Chair: Peter Kenderov
Co-chair: Emil Kelevedjiev
Scientific Secretaries: Galina Ivanova

Saturday 23rd June 2012
09:30 – 10:30
New building, Hall 108

1. Algorithms and usage of bipartite graphs
   Rali Ralev

2. Relate2Spot
   Ivan Stefanov, Dimitar Vouldjeff

3. Comparison and Analysis of Traffic Lights Control Systems
   Momchil Peychev

4. Don’t be angry
   Atanas Atanasov, Vasil Vodenicharov
   Leader of the students: Suzan Feimova
Saturday 23\textsuperscript{th} June 2012
13:30
New building, 2.101

The CHAIRS of the PROGRAMME COMMITTEE and the ORGANIZING COMMITTEE will bestow a CRYSTAL PRIZE to the authors of the best papers.

Meeting of the PROGRAMME COMMITTEE and ORGANIZING COMMITTEE and the chairs of each sections of the CompSysTech’12