UNIVERSITY of RUSE
8 STUDENTSKA STR.
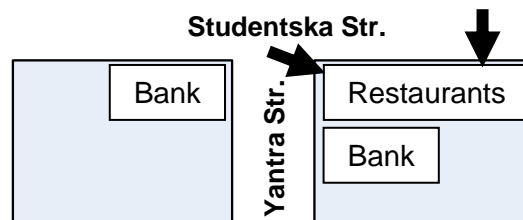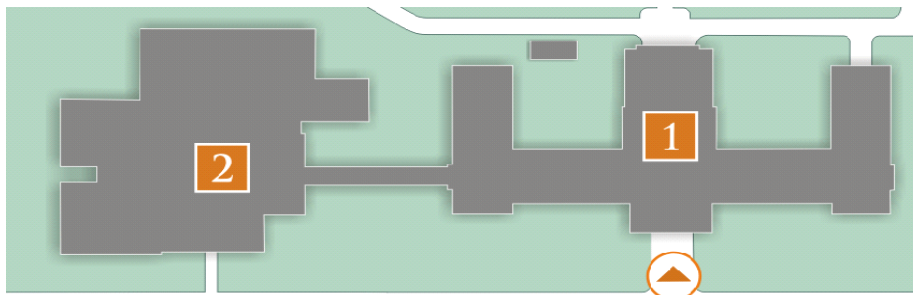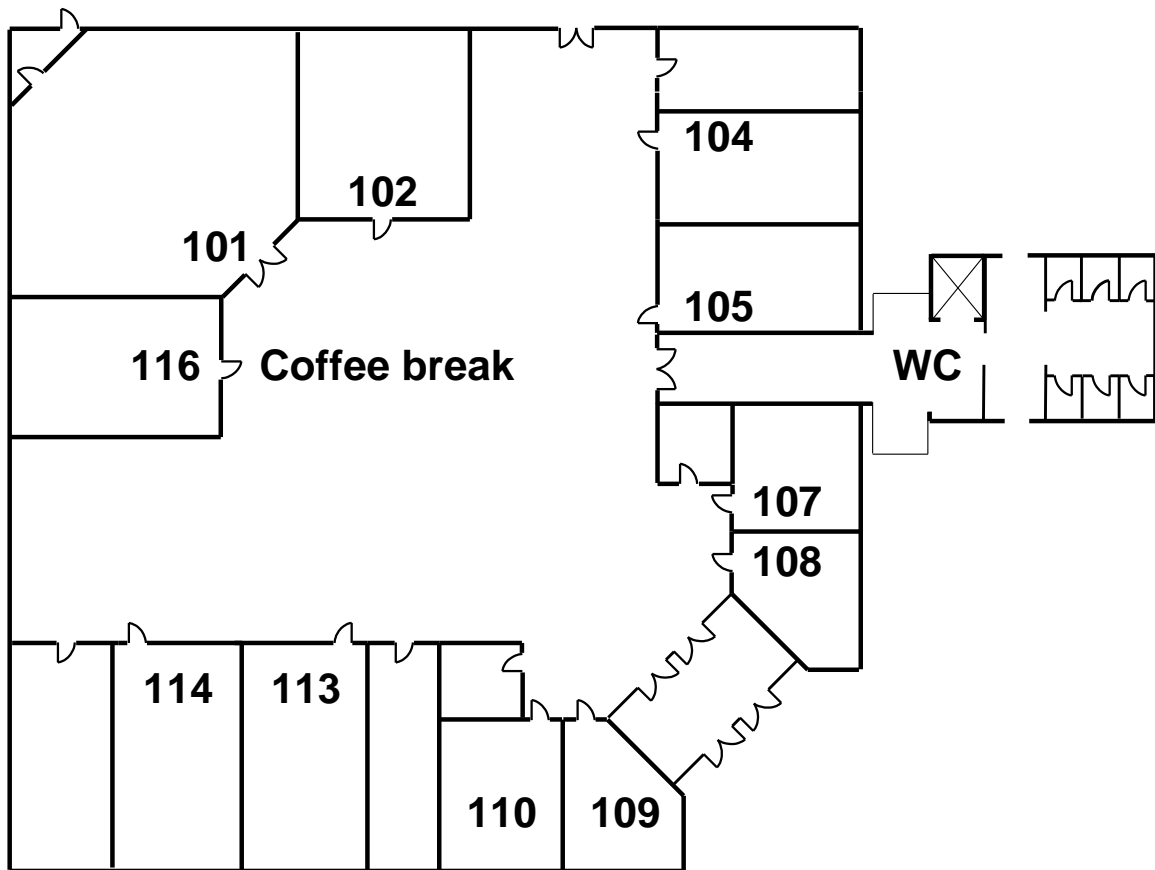

РУСЕНСКИ УНИВЕРСИТЕТ
ПЛАН-СХЕМА

The new building

The main building

THE NEW BUILDING

102

101

116   **Coffee break**

104

105

WC

107

108

114   **113**

110   **109**

2

1

Studentska Str.

Bank

Yantra Str.

Restaurants

Bank

Dear Participants,

You can use free WIRELESS INTERNET via access points named **CompSys** with password **compsys.**

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

♦ CONFERENCE OBJECTIVE

The *CompSysTech'14* International Conference is organized by **THE ASSOCIATION FOR COMPUTING MACHINERY** 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'14 is organized under the patronage of:
- **EUROPEAN COMMISSION - Education, Audiovisual and Culture Executive Agency;**
- **Bulgarian Ministry of Education and Science;**
- **Bulgarian Academy of Sciences;**
- **Bulgarian Chapter of IEEE Computer Society;**
- **Bulgarian Chapter of IEEE Communications Society**

♦ INTERNATIONAL PROGRAMME COMMITTEE

- **Honorary Co-Chairs:**

Kiril Boyanov, Acad., DSc. (Bulgaria)
Vassil Sgurev, Acad., DSc. (Bulgaria)

- **Co-Chairs:**

Boris Rachev, Assoc. Prof., Ph.D. (Bulgaria)
Todor Stoilov, Prof., DSc. (Bulgaria)

- **Scientific Secretary:**

Dimo Dimov, Assoc. Prof., Ph.D. (Bulgaria)

- **Members:**

Albertas Caplinskas (Lithuania)	Howard Duncan (Ireland)
Alexander Sudnitson (Estonia)	Iliya Georgiev (United States)
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Antanas Zilinskas (Lithuania)	Jaroslav Pokorny (Czech Republic)
Avram Eskenazi (Bulgaria)	Jiri Srba (Denmark)
Bojan Cestnik (Slovenia)	Jordan Kolev (Bulgaria)
Boris Novikov (Russia)	Jouni Ikonen (Finland)
Candelaria Hernández-Goya (Spain)	Jukka Teuhola (Finland)
Christian-Andreas Schumann (Germany)	Juliana Peneva (Bulgaria)
Dana Petcu (Romania)	Karl Jones (United Kingdom)
Danail Dochev (Bulgaria)	Kostadin Kratchanov (Turkey)
Daniela Chuda (Slovakia)	Krassen Stefanov (Bulgaria)
Diana Kalibatiene (Lithuania)	Ladislav Hudec (Slovakia)
Dieter Wuttke (Germany)	Leon Rothkrantz (Netherlands)
Dimitris Karagiannis (Austria)	Leoneed Kirilov (Bulgaria)
Douglas Harms (United States)	Leonid Rozenblyum (United States)
Erika Asnina (Latvia)	Lidiya Georgieva (Bulgaria)
George Totkov (Bulgaria)	Lucila Santarosa (Brazil)
Georgi Todorov (Bulgaria)	Marco Porta (Italy)
Georgi Gluhchev (Bulgaria)	Margarita Todorova (Bulgaria)
Grisha Spasov (Bulgaria)	Maria Jose Marcelino (Portugal)
Gundars Alksnis (Latvia)	Marite Kirikova (Latvia)
Hannu Jaakkola (Finland)	Martin Llamas-Nistal (Spain)
Hilda Tellioglu (Austria)	Michael Vassilakopoulos (Greece)

Mirjana Ivanovic (Serbia)
Neli Maneva (Bulgaria)
Nicole Levy (France)
Olegas Vasilecas (Lithuania)
Pavol Navrat (Slovakia)
Peter Stanchev (United States)
Radi Romansky (Bulgaria)
Radu Dobrin (Sweden)

Rebecca Bartlett (United Kingdom)
Stavros Nikolopoulos (Greece)
Stoicho Stoichev (Bulgaria)
Tanja Urbančič (Slovenia)
Timos Sellis (Australia)
Tzvetomir Vassilev (Bulgaria)
Ville Leppänen (Finland)
Yannis Manolopoulos (Greece)

♦ NATIONAL ORGANIZING COMMITTEE

- **Co-Chairs:**

Angel Smrikarov, Prof., Ph.D. (Bulgaria)
Tzvetozar Georgiev, Assoc. Prof., Ph.D. (Bulgaria)

- **Secretary:**

Eugenia Dimitrova (Bulgaria)

- **Members:**

Stoyanka Smrikarova (Bulgaria)
Margarita Teodosieva (Bulgaria)
Katalina Grigorova (Bulgaria)
Jordan Kalmukov (Bulgaria)
Lina Georgieva (Bulgaria)
Boyanka Zhelyazova (Bulgaria)

Plamenka Borovska (Bulgaria)
Grisha Spasov (Bulgaria)
Nadejda Ruskova (Bulgaria)
Margarita Todorova (Bulgaria)
Raicho Ilarionov (Bulgaria)

♦ TOPICS

1. **Computer Systems (Hardware).**

2. **Computer Systems (Software).**

3. **Application Aspects of Computer Systems and Technologies.**

4. **Educational Aspects of Computer Systems and Technologies (Distance learning).**

3. **The youth and the ICT**
   - **High-School Students' Section;**
   - **Students' Section;**
   - **PhD Students' Section**

CompSysTech'14 **Co-Event –**

Workshop „Advances in high performance services for digital, multilingual education (AHPISDME)"

Friday, 27ᵗʰ June 2014

08:00 – 18:00
In the new building, Hall 2.109
REGISTRATION

09:30
New building, Hall 2.101

O P E N I N G

WELCOME

Chair: **Angel Smrikarov**

PLENARY SESSION

Chair: **Boris Rachev**

VIRGINIO CANTONI

University of Pavia, Italy

Lecture on:
Eye-tracking systems, research and applications

ATANAS RADENSKI

Chapman University, California, USA

Lecture on:
Big Data, High-Performance Computing and MapReduce

HANNU JAAKKOLA

Tampere University of Technology, Finland

Lecture on:
**Open Data –
Opportunities and Challenges**

INDUSTRIAL SESSION

ELENA MARINOVA

President Musala Soft, BAIT Board member
and Chair of Committee "Education"

Lecture on:
**The top challenges of the software business
today - quality and quantity of people.
How can business and universities work it
out together?**

DISCUSSIONS

12:00 – 13:30
Lunch

PROGRAMME SUMMARY

13:30 15:30	**Session A** Hall: 104 **Hardware** Number of papers: 4 **Computer Networks** Number of papers: 4	**Session C** Hall: 105 **Data Mining, Information Retrieval & Natural Language Processing** Number of papers: 8	**Session E** Hall: 113 **Web Services and Cloud Computing** Number of papers: 5	**Session G1** Hall: 114 **Workshop AHPISDME** Number of papers: 8	**Session H** Hall: 107 **The youth and the ICT** Number of papers: 5
15:30 16:00					
16:00 18:00	**Session B** Hall: 104 **Image Processing & Computer Vision** Number of papers: 5	**Session D** Hall: 105 **Simulation and Modelling. Statistical Analysis. Intelligent Systems.** Number of papers: 7	**Session F** Hall: 113 **Software Engineering** Number of papers: 6	**Session G2** Hall: 114 **Workshop AHPISDME** Number of papers: 9	

Session A

Chair: **Pino Caballero-Gil**
Co-Chair: **Delyan Genkov**
Scientific Secretary: **Rumen Kojuharov**

Friday, 27th June 2014
13:30 – 15:30
New building, Hall 104

HARDWARE

1. **Design Space Exploration in Multi-level Computing Systems**
   Valery Sklyarov, Iouliia Skliarova, João Silva, Alexander Sudnitson

2. **Evaluating the performance of unified or split caches with simulation tools**
   Penka Avdjieva, Maria Marinova, Vladimir Lazarov

3. **IP Design for DIF and Integration in Nios II Systems: Averaging Filter**
   Trifon Trifonov

4. **Two-Phase Routing in Three-Dimensional Blocked Optical Tori**
   Risto Honkanen, Ville Leppänen

COMPUTER NETWORKS

1. **Tree-Based Revocation for Authentication in Vehicular Ad-hoc Networks**
   Francisco Martin-Fernandez, Pino Caballero-Gil, Candido Caballero-Gil

2. **Monitoring Software for IP based Video Surveillance System**
   Delyan Genkov

3. **"SILICON GALAXY" System Area Network for Collective Communication in Supercomputers**
   Plamenka Borovska, Desislava Ivanova

4. **Computer Simulations of a Modified MiMa-algorithm for a Crossbar Packet Switch**
   Tasho Tashev, Vladimir Monov

DISCUSSIONS

15:30 – 16:00
Coffee Break - Foyer

Session B

Chair: **Leon Rothkrantz**
Co-Chair: **Dimo Dimov**
Scientific Secretary: **Julia Zlateva**

Friday, 27th June 2014
16:00 – 17:15
New building, Hall 104

IMAGE PROCESSING & COMPUTER VISION

1. **A Digital Watermarking Scheme for Image Tamper Detection**
   Zlatoliliya Ilcheva, Nikodim Lazarov

2. **Correlation-based Steganalysis of Modular Data Hiding Methods**
   Svetozar Ilchev, Zlatoliliya Ilcheva

3. **Online Emotional Facial Expression Dictionary**
   Leon Rothkrantz

4. **Real Time Video Stabilization for Handheld Devices**
   Dimo Dimov, Atanas Nickolov

5. **Virtual Co-location to Support Remote Assistance for Inflight Maintenance in Ground Training for Space Missions**
   Dragos Datcu, Marina Cidota, Stephan Lukosch, David Martinez Oliveira, Mikael Wolff

DISCUSSIONS

Session C

Chair: **Daniela Chudá**
Co-Chair: **Irena Valova**
Scientific Secretary: **Jordan Kalmukov**

Friday, 27th June 2014
13:30 – 15:30
New building, Hall 105

DATA MINING, INFORMATION RETRIEVAL &
NATURAL LANGUAGE PROCESSING

1. **Similarity Detection among Longer Texts by Matching Keywords Found in Segments**
   Tomáš Kučečka, Daniela Chudá

2. **A web search methodology for health consumers**
   Marco Alfano, Biagio Lenzitti, Giosuè Lo Bosco

3. **Predicting Newspaper Sales by Using Data Mining Techniques**
   Barış Akbaş, Dilek Karahoca, Adem Karahoca, Ali Güngör

4. **A machine learning approach for identifying zero pronouns in Bulgarian**
   Diana Grigorova

5. **Modelling of the musical taste using semantic network for recommendation systems**
   Dmitry Dolgikh, Ivan Jelínek

6. **The opportunity of using eSpeak as Text-to-Speech synthesizer for Albanian Language**
   Ramiz Kastrati, Mentor Hamiti, Lejla Abazi

7. **Text Mining and Social Network Analysis on Computer Science and Engineering Theses in Turkey**
   Volkan Tunalı, Turgay Tugay Bilgin

8. **Design and Analysis of Novel Similarity Measure for Clustering and Classification of High Dimensional Text Documents**
   G.Suresh Reddy, Ananda Rao, Rajani Kanth

DISCUSSIONS

15:30 – 16:00
Coffee Break - Foyer

Session D

Chair: **Olegas Vasilecas**
Co-Chair: **Tzvetozar Georgiev**
Scientific Secretary: **Biser Nikolov**

Friday, 27th June 2014
16:00 – 17:45
New building, Hall 105

SIMULATION AND MODELLING. STATISTICAL ANALYSIS.
INTELLIGENT SYSTEMS

1. **Intraday Stock Forecasting**
   Victor Louwerse, Leon Rothkrantz

2. **An Extension of Flexible Job Shop Problem (FJSP) and Method for Solving**
   Leoneed Kirilov, Vassil Guliashki

3. **Usage of computer mouse characteristics for identification in web browsing**
   Daniela Chuda, Peter Kratky

4. **Bayesian belief network application in process mining**
   Titas Savickas, Olegas Vasilecas

5. **A Customised Metric for Foods Categorization**
   Ivo Marinchev, Gennady Agre

6. **Early concept of classification test and contemporary approach to diagnostic test and combinatorial test**
   Vesela Angelova

7. **Decentralised Control Optimisation for a Glass Furnace by SGA's**
   Kumaran Rajarathinam, J. Barry Gomm, Karl Jones, Ahmed Saad Abdelhadi

DISCUSSIONS

Session E

Chair: **Adina Uta**
Co-Chair: **Aleksandar Dimov**
Scientific Secretary: **Nikolai Kostadinov**

Friday, 27th June 2014
13:30 – 14:45
New building, Hall 113

WEB SERVICES & CLOUD COMPUTING

1. **RecSS: Automation of QoS-Aware Web Service Selection**
   Dessislava Petrova-Antonova, Nadezhda Hristova, Olga Georgieva

2. **Web service QoS specification in BPEL descriptions**
   Krasimir Baylov, Dessislava Petrova-Antonova, Aleksandar Dimov

3. **Cloud Storage Providers: A Comparison Review and Evaluation**
   Xhemal Zenuni, Jaumin Ajdari, Florije Ismaili, Bujar Raufi

4. **Security of Virtual Entities**
   Adina Uta, Ion Ivan, Marius Popa, Cristian Ciurea, Mihai Doinea

5. **Towards a diversification framework for operating system protection**
   Sampsa Rauti, Johannes Holvitie, Ville Leppänen

DISCUSSIONS

15:30 – 16:00
Coffee Break - Foyer

Session F

Chair: **Jouni Ikonen**
Co-Chair: **Georgi Georgiev**
Scientific Secretary: **Georgi Teodorov**

Friday, 27th June 2014
16:00 – 17:30
New building, Hall 113

SOFTWARE ENGINEERING

1. **Automated Testing in the Czech Republic: The Current Situation and Issues**
   Miroslav Bures

2. **Reducing user input validation code in web applications using Pex extension**
   Karel Frajták, Miroslav Bureš, Ivan Jelínek

3. **Designing a user interface for game developers to enter game specific information**
   Nikolaos Paraschou, Jouni Ikonen, Kari Heikkinen, Janne Parkkila

4. **Can virtual reality be better controlled by a smart phone than by a mouse and a keyboard?**
   Alena Kovárová, Maroš Urbančok

5. **A Methodology for Automated Evaluation of Projects Quality**
   Rositsa Doneva, Silvia Gaftandzhieva

6. **Customer-Oriented Change Management for ERP Systems**
   Erika Asnina, Mara Pudane, Marika Svike, Gundars Alksnis

DISCUSSIONS

Session G1

Chair: **António José Mendes**
Co-Chair: **Galina Ivanova**
Scientific Secretary: **Elena Diankova**

Friday, 27th June 2014
13:30 – 15:30
New building, Hall 114

WORKSHOP
"Advances in high performance services for digital, multilingual education"
(AHPISDME)

1. **Online Programming Exercises for Summative Assessment in University Courses**
   Pavol Navrat, Jozef Tvarozek

2. **Increasing the Flexibility of Automated Concept Map Based Knowledge Assessment**
   Maija Strautmane

3. **A 3D Model for Adaptive Multi-Lingual Online Assessment**
   Margarita Todorova, Oleg Asenov, Donika Valcheva

4. **Student Evaluation by Graph Based Data Mining of Administrational Systems of Education**
   András London, Tamás Németh

5. **Increasing Collaborative Communications in a Programming Course with Gamification: A Case Study**
   Antti Knutas, Jouni Ikonen, Uolevi Nikula, Jari Porras

6. **Creating Software Engineering Student Interaction Profiles for Discovering Gamification Approaches to Improve Collaboration**
   Antti Knutas, Jouni Ikonen, Dario Maggiorini, Laura Ripamonti, Jari Porras

7. **The Distance Learning course on Computer Networks at the University of Coimbra**
   João Costa e Silva, Sandra Pedrosa, Maria José Marcelino, António José Mendes, Fernando Boavida, Mário Bernardes

8. **Teaching in Balkan Countries – Multilingual and Multicultural Approach**
   Zoran Putnik, Mirjana Ivanovic, Zoran Budimac, Klaus Bothe, Hans-Dieter Burkhard

DISCUSSIONS

15:30 – 16:00
Coffee Break - Foyer

Session G2

Chair: **Tanja Urbančič**
Co-Chair: **Vladimir Mateev**
Scientific Secretary: **Orlin Tomov**

Friday, 27th June 2014
16:00 – 18:00
New building, Hall 114

WORKSHOP
"Advances in high performance services for digital, multilingual education"
(AHPISDME)

9. **Academic dishonesty in a partially online environment: A survey**
Danijela Subotic, Patrizia Poscic

10. **What Can VideoLectures.Net and transLectures Do for Opening Higher Education to the Multicultural World**
Davor Orlič, Bojan Cestnik, Tanja Urbančič

11. **Automatized Test Item Generation in Moodle**
Mariyana Raykova, Hristina Kostadinova, George Totkov

12. **Online students in 2014**
Ásrún Matthíasdóttir

13. **Multilingual information delivery based on a domain ontology**
Nauris Paulins, Irina Arhipova, Signe Balina

14. **TeachMe: Personal Learning Environment for Children**
Rosen Ivanov

15. **An Interactive Technology to Support Education of Children With Hearing Problems**
Alexander Krastev, Anna Lekova, Maya Dimitrova, Ivan Chavdarov

16. **Version Control Usage in Students' Software Development Projects**
Pekka Mäkiaho, Timo Poranen, Ari Seppi

17. **Approach for Integration of the Methods of the Network Analysis in the Field of Distance and Electronic Education**
Radoslav Miltchev, Galin Milchev, Ivan Manchev

DISCUSSIONS

Session H

Chair: **Peter Kenderov**
Co-Chair: **Anelia Ivanova**
Scientific Secretary: **Syuzan Feimova**

Friday, 27th June 2014
13:30 – 14:45
New building, Hall 2.107

THE YOUTH AND THE ICT

1. **Home automation using Raspberry Pi**
   Vladimir Mutafov

2. **Dynamic Road Conditioning Network**
   Hristo Staykov

3. **Cells' Evolution.**
   Emil Indjev, Syuzan Feimova

4. **Genetic Algorithms for Technical Analysis of the Stock Market**
   Marin Shalamanov, Vasil Vasilev

5. **Application development to protect the computer system from malicious code**
   Stefan Tafkov

DISCUSSIONS

15:30 – 16:00
Coffee Break - Foyer

Friday, 27th June 2014
18:00
New building, Hall 2.101

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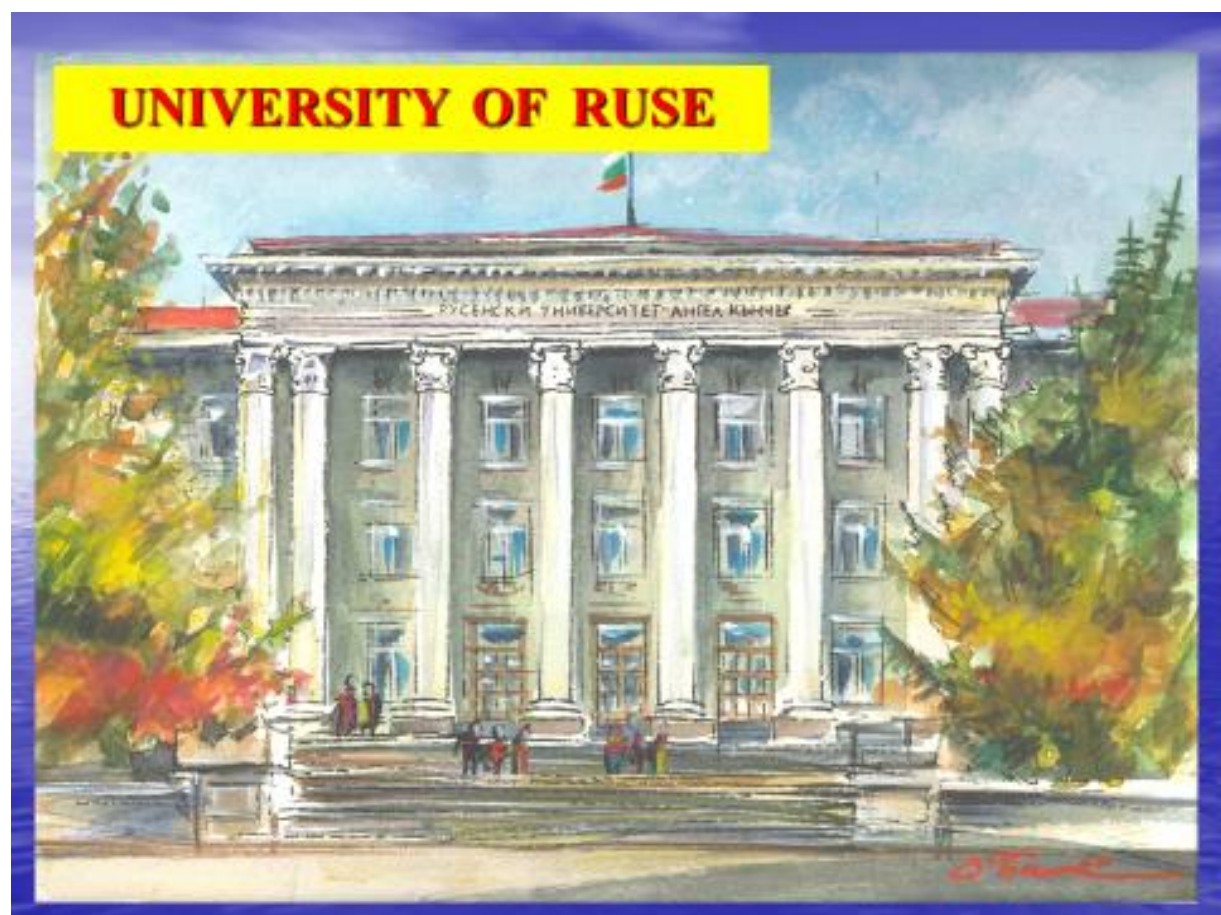**to the authors of the best papers.**

Friday, 27th June 2014
18:30
New building, Hall 2.101

Meeting
of the PROGRAMME COMMITTEE and ORGANIZING COMMITTEE
and the chairs of each sections
of the CompSysTech'14

19:30
SOCIAL EVENING IN THE RESTAURANT "RIGA"
22 PRIDUNAVSKI BLVD
2 floor

Paintings from RUSE

N O T E S