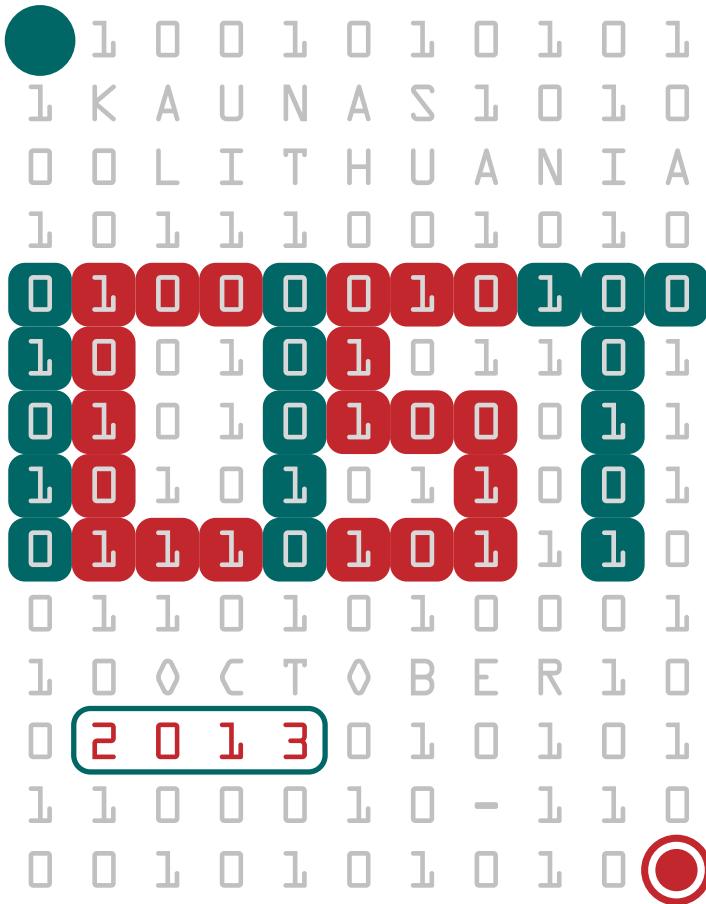


19th International Conference on Information and Software Technologies



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Conference Organization

The International Conference on Information and Software Technologies is organized by Kaunas University of Technology. The annual conference takes place in the Lithuanian city of Kaunas and belongs to a group of events from the conferences series „Lithuanian Science and Industry“.

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Sponsors

Research Council of Lithuania
Faculty of Informatics of Kaunas University of Technology

Conference Sessions Map

Thursday, 10th October, 2013

08:30-11:00	Registration Foyer, 3 rd floor, Europa Royale KAUNAS HOTEL, Miško str. 11, Kaunas		
09:00-09:15	Opening "3-1" Hall		
09:15-10:15	Key Note "3-1" Hall		
10:20-11:00	Session 1 "3-1" Hall Information Systems	Session 2 "3-2" Hall Software Engineering	Session 3 "SK" Room Information Systems
11:00-11:20	Coffee Break		
11:20-12:20	Session 4 "3-1" Hall Software Engineering	Session 5 "3-2" Hall Information Systems	Session 6 "SK" Room Business Intelligence for Information and Software Systems
12:20-13:30	Lunch		
13:30-14:50	Session 7 "3-1" Hall Software Engineering	Session 8 "3-2" Hall Information Systems	Session 9 "SK" Room Business Intelligence for Information and Software Systems
14:50-15:10	Coffee Break		
15:10-16:30	Session 10 "3-1" Hall Software Engineering	Session 11 "3-2" Hall Information Systems	Session 12 "SK" Room Information Systems
19:00	Conference Dinner		

Note: "3-1" and "3-2" Halls are on the 3rd floor; "SK" room – on the 1st floor.

Thursday, October 10th

08:30-11:00, **Registration**

09:00-09:15, **Opening**

“3-1” Hall

Director of the Research Affairs Department
Assoc. Prof. Leonas Balaševičius

09:15-10:15, **Key Note**

“3-1” Hall

The Role of Synthesis in Composing Correct Systems

Speaker Prof. Paola Inverardi

10:20-11:00, **Sessions**

Session 1. Information Systems, “3-1” Hall

Chaired by *prof. Antanas Žilinskas*

1. **ANALYSIS OF CONTROL SYSTEM WITH DELAY USING THE LAMBERT FUNCTION**
Irma Ivanoviene and Jonas Rimas
2. **THE QUALITY MANAGEMENT METAMODEL IN THE ENTERPRISE ARCHITECTURE**
Jerzy Roszkowski and Agata Roszkowska

Session 2. Software Engineering, “3-2” Hall

Chaired by *prof. Robertas Damaševičius*

1. **AUTOMATED METHOD FOR SOFTWARE INTEGRATION TESTING BASED ON UML BEHAVIORAL MODELS**
Dominykas Barisas, Eduardas Bareiša, and Šarūnas Packevičius
2. **COMPUTATIONAL ALGORITHMIC GENERATION OF HIGH-QUALITY COLOUR PATTERNS**
Alfonas Misevičius, Evaldas Guogis, and Evelina Stanevičienė

Session 3. Information Systems, “SK” Room

Chaired by *dr. Germanas Budnikas*

1. **ONTOLOGY MATCHING USING TF/IDF MEASURE WITH SYNONYM RECOGNITION**
Marko Gulic, Ivan Magdalenic, and Boris Vrdoljak
2. **MOVING AVERAGES FOR FINANCIAL DATA SMOOTHING**
Aistis Raudys, Vaidotas Lenčiauskas, and Edmundas Malčius

11:00-11:20, Coffee Break

11:20-12:20, Sessions

Session 4. Software Engineering, "3-1" Hall

Chaired by *prof. Vacius Jusas*

1. **DESIGN OF VISUAL LANGUAGE SYNTAX FOR ROBOT PROGRAMMING DOMAIN**
Ignas Plauska and Robertas Damaševičius
2. **TESTING STOCHASTIC SYSTEMS USING MOVOS TOOL: CASE STUDIES**
Kenza Bouaroudj, Djamel-Eddine Saidouni, and Ilham Kitouni
3. **TWO SCALE MODELING OF HETEROGENEOUS SOLID BODY BY USE OF THICK SHELL FINITE ELEMENTS**
Dalia Čalnerytė and Rimantas Barauskas

Session 5. Information Systems, "3-2" Hall

Chaired by *dr. Raimundas Matulevičius*

1. **KNOWLEDGE TRANSFER IN MANAGEMENT SUPPORT SYSTEM IMPLEMENTATION**
Bartosz Wachnik
2. **COLLECTIVE INTELLIGENCE UTILIZATION METHOD BASED ON IMPLICIT SOCIAL NETWORK COMPOSITION AND EVOLUTION IN THE SCOPE OF PERSONAL LEARNING ENVIRONMENT**
Genadijus Kulvietis, Andrej Afonin, and Danguole Rutkauskiene
3. **AUTOMATION OF UPGRADE PROCESS FOR ENTERPRISE RESOURCE PLANNING SYSTEMS**
Algirdas Laukaitis

Session 6. Business Intelligence for Information and Software Systems, "SK" Room

Chaired by *dr. Vytautas Rudžionis*

1. **SPEECH KEYWORD SPOTTING WITH RULE BASED SEGMENTATION**
Mindaugas Greibus and Laimutis Telksnys
2. **BUSINESS INTELLIGENCE MATURITY MODELS: INFORMATION MANAGEMENT PERSPECTIVE**
Alaskar Thamiir and Babis Theodoulidis
3. **MODIFIED STOCHASTIC ALGORITHM FOR MINING FREQUENT SUBSEQUENCES**
Loreta Savulioniene and Leonidas Sakalauskas

12:20-13:30, Lunch

13:30-14:50, Sessions

Session 7. Software Engineering, “3-1” Hall

Chaired by *dr. Jerzy Roszkowski*

1. **NOVEL METHOD TO GENERATE TESTS FOR VHDL**
Vacius Jusas and Tomas Neverdauskas
2. **EMPIRICAL ANALYSIS OF THE TEST MATURITY MODEL INTEGRATION (TMMI)**
Kerli Rungi and Raimundas Matulevičius
3. **MEASURING THE PERFORMANCE OF PROCESS SYNCHRONIZATION WITH THE MODEL-DRIVEN APPROACH**
Vladislav Nazaruk and Pavel Rusakov

Session 8. Information Systems, “3-2” Hall

Chaired by *dr. Zheyang Zhang*

1. **WEB-BASED ANALYTICAL INFORMATION SYSTEM FOR SPATIAL DATA PROCESSING**
Viacheslav Paramonov, Roman Fedorov, Gennagy Ruzhnikov, and Alexandr Shumilov
2. **SYSTEM ARCHITECTURE MODEL BASED ON SERVICE-ORIENTED ARCHITECTURE TECHNOLOGY**
Tarkan Gurbuz, Daina Gudoniene, and Danguole Rutkauskiene
3. **BUSINESS PROCESS FLOW VERIFICATION USING KNOWLEDGE BASED SYSTEM**
Regina Miseviciene, Germanas Budnikas, and Dalius Makackas

Session 9. Business Intelligence for Information and Software Systems, “SK” Room

Chaired by *dr. Algirdas Laukaitis*

1. **ON TWO APPROACHES TO CONSTRUCTING OPTIMAL ALGORITHMS FOR MULTI-OBJECTIVE OPTIMIZATION**
Antanas Žilinskas
2. **RECOGNITION OF VOICE COMMANDS USING HYBRID APPROACH**
Vytautas Rudžionis, Kastytis Ratkevičius, Algimantas Rudžionis, Gailius Raškinis, and Rytis Maskeliūnas
3. **ESTIMATION OF THE ENVIRONMENTAL IMPACT ON THE ACCURACY OF SIGNAL RECOGNITION**
Gintarė Čeidaitė and Laimutis Telksnys

14:50-15:10, Coffee Break

15:10-16:30, Sessions

Session 10. Software Engineering, “3-1” Hall

Chaired by *prof. Alfonsas Misevičius*

1. **MINIMIZATION OF NUMERICAL DISPERSION ERRORS IN FINITE ELEMENT MODELS OF NON-HOMOGENEOUS WAVEGUIDES**
Andrius Krisciunas and Rimantas Barauskas
2. **EVALUATION OF OPEN SOURCE SERVER-SIDE XSS PROTECTION SOLUTIONS**
Jonas Ceponis, Lina Ceponiene, Algimantas Venckauskas, and Dainius Mockus
3. **BEHAVIOR ANALYSIS OF REAL-TIME SYSTEMS USING PLA METHOD**
Dalius Makackas, Regina Miseviciene, and Henrikas Pranevicius
4. **DEVELOPMENT IN AUTHENTICATION OF AODV PROTOCOLS TO RESIST THE ATTACKS**
Ahmad Alomari

Session 11. Information Systems, “3-2” Hall

Chaired by *dr. Viacheslav Paramonov*

1. **DEVELOPING SBVR VOCABULARIES AND BUSINESS RULES FROM OWL2 ONTOLOGIES**
Gintare Bernotaityte, Lina Nemuraite, Rita Butkiene, and Bronius Paradauskas
2. **SEMI-SUPERVISED LEARNING OF ACTION ONTOLOGY FROM DOMAIN-SPECIFIC CORPORA**
Irena Markievicz, Daiva Vitkute-Adzgauskiene, and Minija Tamosiunaite
3. **INCOMPLETENESS IN CONCEPTUAL DATA MODELLING**
Peter Thanisch, Tapio Niemi, Jyrki Nummenmaa, Zheyang Zhang, Marko Niinimäki, and Pertti Saariluoma

Session 12. Information Systems, “SK” Room

Chaired by *dr. Tomas Skersys*

1. **PROCESS FOR APPLYING DERIVED PROPERTY BASED TRACEABILITY FRAMEWORK IN SOFTWARE AND SYSTEMS DEVELOPMENT LIFE CYCLE**
Saulius Pavalkis and Lina Nemuraite
2. **TOWARDS THE COMBINATION OF BPMN PROCESS MODELS WITH SBVR BUSINESS VOCABULARIES AND RULES**
Eglė Mickevičiūtė and Rimantas Butleris
3. **EXPLORING KEY FACTORS OF PILOT PROJECTS IN AGILE TRANSFORMATION PROCESS USING A GROUNDED THEORY STUDY.**
Taghi Javdani Gandomani, Hazura Zulzalil, Abdul Azim Abd Ghani, Abu Bakar Md. Sultan, and Khaironi Yatim Sharif

19:00, Conference Dinner

Restaurant “Senieji Rūsiai”, Vilniaus st. 34

About Kaunas



Kaunas with more than 300 thousand inhabitants is one of the most significant cities of Lithuania. It is not only a city of old traditions, but also a large centre of business and industry. It can also lay claim to be a city of young people with over 35,000 students studying at one of the eleven universities here.

Kaunas was always fated to become an important historical and cultural city in Lithuania. In 1408, Magdeburg rights were granted to the city of Kaunas by the privilege of Vytautas the Great. During the early 20th century Kaunas was the home of the Lithuanian Government and the capital city; a period considered by many as the golden age of the city. However, history tells us that even before this date, the city, situated at the confluence of the rivers Neris and Nemunas, experienced many other periods of great prosperity and national importance.

It's hard to name the single most famous feature of Kaunas. From the historic 13th century Kaunas Castle to the romantic City Hall Square, from the macabre Devils' Museum to the galleries of art varying from classic to avant-garde – Kaunas offers something for everybody. The cosy and enigmatic Old Town of Kaunas extends into a vibrant Laisves avenue, where visitors can enjoy the mix of modern and traditional shops, cafes and bars.

Also basketball is synonymous with Kaunas not only because we held the very first official basketball game in Lithuania in 1922, but also because of the famous Zalgiris team and its NBA superstar Arvydas Sabonis.

We are happy to welcome you in Kaunas and wish you a pleasant and fruitful stay!

About Kaunas University of Technology

Kaunas University of Technology, with its eleven faculties, a Division in Panevėžys, high school (gymnasium), and numerous research centers, is the second largest university in Lithuania. About 80% of Lithuania's industrial engineers have graduated from KTU.

The present Kaunas University of Technology originated from the School of Higher Studies, which was established in 1920. Two years later this School was reorganized and became the University of Lithuania. In 1930 it was named Vytautas Magnus University, and in 1946 was renamed as the State University of Kaunas. After World War II, the Kaunas Polytechnic Institute (KPI) emerged as a successor to the State University. In 1990, KPI was restructured and brought into line with most Western universities. By Parliamentary decision, it was then granted its present university status and name.

The faculties of Kaunas University of Technology:

- Faculty of Chemical Technology
- Faculty of Civil Engineering and Architecture
- Faculty of Design and Technologies
- Faculty of Economics and Management
- Faculty of Electrical and Control Engineering
- Faculty of Fundamental Sciences
- Faculty of Humanities
- Faculty of Informatics
- Faculty of Mechanical Engineering and Mechatronics
- Faculty of Social Sciences
- Faculty of Telecommunications and Electronics
- International Studies Centre
- Division of Panevėžys, containing the Faculties of Technology, and Management and Administration

The full-time University staff includes of 1036 teachers (among them there are 106 professors and 321 associated professors) and 170 researchers. There are twelve thousand students including 2780 graduate, and 378 doctoral students.

Higher education in Lithuania is divided into undergraduate, graduate, and doctoral studies. Kaunas University of Technology awards Bachelor's, Master's and Doctor's degrees. Undergraduate studies in four years lead to a Bachelor of Science degree (B.Sc.) and a Master's degree (M.Sc.) in two further years.

More information about Kaunas University of Technology can be found at <http://en.ktu.lt/>.

About the Faculty of Informatics

Faculty of Informatics of Kaunas University of Technology was established in 1977. However, the faculty got its current name in 1990 only as originally it was called the Faculty of Computation Technology. The faculty currently includes 5 departments:

- Information Systems,
- Computers,
- Multimedia Engineering,
- Software Engineering,
- Applied Informatics.

The faculty offers the choice of Informatics, Informatics Engineering, Multimedia Technologies, Information Systems, Software Systems, and E. learning Technologies Bachelor's degree programmes. Those pursuing the master's degree can chose from five studies programmes:

- Informatics,
- Information and IT Security,
- Information Technologies of Distance Education,
- Software Engineering,
- Information Systems Engineering.

Each year the faculty of informatics accepts around 400 new students seeking bachelor's or master's degree. Graduates can also chose to pursue the academic career by choosing informatics or informatics engineering doctoral studies.

Helpful Information

Lithuanian Time and Date

Kaunas is located in the Middle European Time Zone, GMT+2.

In Lithuania all dates are written: year, month, day (thus 12-05-06 means 6th of May, 2012).

Currency

The local currency is called "Litas". Exchange rate: 3,45 LTL =1,00 EUR

Useful Phone Numbers

Emergency call: 112

Information: 118

Kaunas Airport (Karmėlava), www.kaunas-airport.lt

Information: (+370 37) 399307

(+370 37) 399396

Vilnius Airport, www.vilnius-airport.lt/en

Information: (+370 5) 2306666

Kaunas Bus Station, tickets: www.autobusubilietai.lt

Information: (+370 37) 40 90 60

(+370 37) 40 90 61

Kaunas Railway Station, www.litrail.lt

Information: (+370 37) 221093


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1422 (Omitel)

1441 (Bitė GSM)



Organized by
Kaunas University of Technology
Department of Information Systems 

Kaunas, Lithuania
2013