



↓
Welcome

The **22nd International Conference on Information and Software Technologies ICIST'2016** is taking place in Druskininkai, an international spa resort town in southern Lithuania.

The scientific conference programme includes four invited talks and research paper presentations in parallel sessions.

There were 158 submissions this year and 61 paper was selected for this publication. Every paper was reviewed by at least two members of the international Programme Committee consisting of 95 reviewers (supported by 85 additional reviewers) representing more than 99 academic institutions. We believe the selection of accepted papers presented in this book is a good reflection of the latest research on the selected topics.

The conference papers present recent results as well as discuss research challenges, propose methodologies and describe new applications in the area of Information Systems, Business Intelligence for Information and Software systems, Software Engineering, and IT Applications.

The Conference Proceedings are published by Springer as a part of **Communications in Computer and Information Science (CCIS)** series and will be referred in **Thomson Reuters Web of Science**.

The conference was made possible due to the support of the Faculty of Informatics, Kaunas University of Technology, and Research Council of Lithuania, whose contribution is gratefully acknowledged.



Chairs & Committee

General Chair

Eduardas Bareiša
Lithuania

Programme Committee Chair

Robertas Damaševičius
Kaunas University of Technology /
Lithuania

Special Section Chairs

Irene Krebs
University of Technology Cottbus /
Germany

Marcin Woźniak
Silesian University of Technology /
Poland

Danguole Rutkauskienė
Kaunas University of Technology /
Lithuania

Audrius Lopata
Vilnius University / Lithuania

Maria Dolores Afonso Suárez
SIANI University Institute / Spain

Rolf Engelbrecht
ProRec Germany / Germany

Justyna Patalas-Maliszewska
University of Zielona Gora / Poland

Emiliano Tramontana
University of Catania / Italy

Christian Napoli
University of Catania / Italy

Carsten Wolff
Dortmund University of Applied
Sciences and Arts / Germany

Christian Reimann

Dortmund University of Applied
Sciences and Arts / Germany

Pasi Kuvaja

University of Oulu / Finland

Jurgita Kapočiūtė-Dzikienė

Vytautas Magnus University / Lithuania

Peter Dirix

University of Leuven / Belgium

Algirdas Pakštas

London Metropolitan University / UK

Vira Shendryk

Sumy State University / Ukraine

Radu Adrian Vasiliu

Politehnica University of Timisoara /
Romania

Vytenis Punys

Kaunas University of Technology /
Lithuania

Giedrius Vanagas

Lithuanian University of Health
Sciences / Lithuania

Local Organizing Committee

Giedrė Drėgvaitė (Chair) / Lithuania

Romas Šleževičius / Lithuania

Lina Repšienė / Lithuania

Gintarė Dzindzelėtaitė / Lithuania

Mindaugas Vasiljevas / Lithuania

Sponsors

Research Council of Lithuania

Faculty of Informatics /

Kaunas University of Technology

➔ Key Notes and Speakers



Prof. dr.
Ajith Abraham

Dr. Abraham is the Director of Machine Intelligence Research Labs (MIR Labs), a Not-for-Profit Scientific Network for Innovation and Research Excellence connecting Industry and Academia. The Network with Headquarters in Seattle, USA has currently more than 1,000 scientific members from over 100 countries. He also works as a Research Professor in VSB-Technical University of Ostrava, Czech Republic. As an Investigator / Co-Investigator, he has won research grants worth over 100+ Million US\$ from Australia, USA, EU, Italy, Czech Republic, France, Malaysia and China. Dr. Abraham works in a multi-disciplinary environment involving machine intelligence, cyber-physical systems, Internet of things, network security, sensor networks, Web intelligence, Web services, data mining and applied to various real world problems. In these areas he has authored / coauthored more than 1,000+ research publications out of which there are 100+ books cover-

ing various aspects of Computer Science.

Since 2008, Dr. Abraham is the Chair of IEEE Systems Man and Cybernetics Society Technical Committee on Soft Computing and served as a Distinguished Lecturer of IEEE Computer Society representing Europe (2011-2013). Under his direct academic supervision, 8 students received Ph.D. degrees and is currently supervising 10 Ph.D. students in different Universities in Europe, USA, Africa and India. Currently Dr. Abraham is the editor-in-chief of Engineering Applications of Artificial Intelligence (EAAI) and serves/served the editorial board of over 15 International Journals indexed by Thomson ISI. He is actively involved in the organization of several academic conferences, and some of them are now annual events. Dr. Abraham received Ph.D. degree in Computer Science from Monash University, Melbourne, Australia (2001) and a Master of Science Degree from Nanyang Technological University, Singapore (1998).

↓ Cyber Physical Systems: Challenges from a Data Analysis Perspective

Thursday, October 13th, 11.00–12.00

We are blessed with the sophisticated technological artifacts that are enriching our daily lives and the society. It is believed that the future Internet is going to provide us the framework to integrate, control or operate virtually any device, appliance, monitoring systems, infrastructures etc. The challenge is to design intelligent machines and

networks that could communicate and adapt according to the environment. In this talk, the concept of digital ecosystem will be presented and then various research challenges from several application perspective will be illustrated. Some real world applications involving the analysis of complex data / applications would be the key focus.



Prof. dr.
Christian Reimann

Prof. Christian Reimann is a professor at Dortmund University of Applied Sciences and Arts. He is also an international coordinator of

Faculty of Computer Science. Prof. Reimann is also an organiser of the International Research Conference at the University.

↓ Users vs. Internet of Things: Can We Bridge the Gap?

Friday, October 14th, 10.00–11.00

Information is an important factor in all business areas. Health care is producing data, knowledge and information from many different sources. Individual patient data are used

in many ways and for different purposes including statistical analysis and presentation. Epidemiological studies lead to new knowledge and medical evidence for diagnosis and

therapy. The amount of healthcare data is increasing and new methods are needed for management and interpretation of these large quantities of data. Strategies and methods used in other businesses have to be analysed, possibly adapted, tested and applied. Developments in pa-

tient centred medicine and personal medicine offer new treatment possibilities. The relationships to developments in medical records, big data and health information management are important. Analysis of these data may result in a new way healthcare is provided.



Prof. dr.
Sanjay Misra

Dr. Misra is a full Professor of Computer Engineering at Covenant University, Ota, Nigeria. He has 21 years of wide experience in academic administration and researches in various universities in Asia, Europe and Africa. He is a software engineer and previously held academic positions at FUT Minna (Nigeria) (as Head Department of Computer Engineering and Cyber security), Atılım University (Turkey), Subharati University and UP Technical University (India). He has author/coauthor in more than 180 papers and got several awards for outstanding publications. Recently, Institute of Engineering and Technology(IET), United Kingdom

awarded him "2014 IET Software Premium Award" for Best Paper published in last two years. He has delivered 24 plenary and keynote speeches (IEEE, Springer, Elsevier sponsored conferences) and 33 invited talks (workshops/seminars/lecture) in various universities and institutions in more than 30 countries. He is an editor in chief of the book series on Advances in IT Personals and Project management (IGI Global), author of 1 book and editor (one of) in 20 Lecture Notes in Computer Science (Springer), 5 IEEE conference proceedings. He is General Chair of 6th IEEE ICAST: 2014 and founder chair of 3 annual international workshops: Software

Engineering Process and Applications (SEPA), Springer (2009-2016), Tools and Techniques in Software Development Process, IEEE (2009-2016), Software Quality, IEEE (2009), LNCS (2011-2016) and Software Metrics and Measurement, IEEE (2009). Presently, he is Editor in chief editor of International Jour-

nal of Physical Sciences, founder EIC of Covenant Journal of ICT and International Journal of Computer Science and Software Technology, and also serving as editor, associates editor and editorial board members of many journals (more than 20) of international repute.



Controlling Quality in Web-Service

Saturday, October 15th, 10.00–11.00

The recent trends and the drivers of the knowledge based transformation in any field affected every area of our lives and changed especially the way we learn. These trends are changing the educational needs at all levels and influencing all learning environments. Learning can be considered as a collaborative problem solving process which involves social interactions and shared experience. The profound changes in our environment emphasize collaboration and demonstrate the important role of supportive relationship in education and underline the need for building learning communities, communities of practice. Developing technologies

indeed offer significant opportunities for collaboration and enhancing collaborative learning. Online collaborative learning environments revolutionized the approach to education, training, and learning at a distance. The developing e-learning industry increased the possibilities for building online learning communities and communities of practice through online collaboration. This presentation will try to explore the potential of Social Networking Services and Platforms in building and supporting learning environments. Experiences and applications will also be shared during the presentation.



Assoc. prof. dr.
Tor-Morten Grønli

Tor-Morten Grønli is currently an associate professor of the faculty of technology at Westerdals Oslo School of Arts, Communication and Technology (Westerdals Oslo ACT), Norway. He holds a PhD in computer science from College of Engineering Design and Physical Sciences, department of Computer Science, Brunel University, London, United Kingdom, and a master of technology with distinction from Brunel University, London, United Kingdom. He is a visiting research scholar at department of Information Technology Management at Copenhagen Business School and is co-heading the joint collaboration between CBS Computational Social Science Laboratory and Westerdals Mobile Tech Lab. He is the head of bachelor studies and head of master of Applied Computer Science at faculty of technology, Westerdals Oslo ACT. Currently, his research is focused on

mobile & pervasive computing, context-awareness, software architectures and the Internet of things. He is the founder and co-director of the Mobile Technology Lab at Westerdals Oslo ACT. He has (co)authored more than 35 papers in conferences and journals, and leads the Applied Computer Science research group at faculty of technology at Westerdals Oslo ACT, Norway. He has served as the co-organizer of the 10th, 11th & 12th International Conference on Mobile Web and Intelligent Information Systems. He is a TPC member for AINA, COMPSAC, WoTBD, HICSS, CHI, IEEE-WiMob, PerCAM, ICIST to name a few. He regularly serves as a reviewer and guest editor for several high ranked journals such as TOMCAP, journal of Computers, and Computers and Electrical Engineering, and he is on the editorial board of journal of Online Information Review.

- ➔ **Mobile Application Architecture and Design in the Era of Internet-of-Things**
Thursday, October 13th, 12.30–13.30



⬇ Thursday, 13th October

9.00–10.00	Registration Reception desk, Grand Spa Lietuva, V. Kudirkos str. 45, Druskininkai	Conference Hall NEMUNAS
10.00–11.00	Opening Ceremony Prof. dr. Robertas Damaševičius, Faculty of Informatics Welcoming by ethnographic ensemble “Raciliukai” Druskininkai “Ryto” Gymnasium	
11.00–12.00	KEY NOTE Prof. dr. Ajith Abraham “Cyber Physical Systems: Challenges from a Data Analysis Perspective” Machine Intelligence Research Labs (MIR Labs), USA	
12.00–12.30 COFFEE BREAK		

12.30–13.30	<p>KEY NOTE Assoc. prof. dr. Tor-Morten Grønli “Mobile Application Architecture and Design in the Era of Internet of Things” Westerdals Oslo School of Arts, Communication and Technology, Norway</p>	Conference Hall NEMUNAS
13.30–15.00	<p>Lunch Restaurant Grand Spa</p>	
15.00–18.00	<p>Cultural event Making and tasting cheese</p>	
19.00	<p>Dinner Restaurant Grand Spa</p>	

⬇ Friday, 14th October

9.00–10.00	<p>Registration Reception desk, Grand Spa Lietuva, V. Kudirkos str. 45, Druskininkai</p>	
10.00–11.00	<p>KEY NOTE Prof. dr. Christian Reimann “Users vs. Internet of Things: Can We Bridge the Gap?” Dortmund University of Applied Sciences and Arts, Germany</p>	Conference Hall ČIURLIONIS
11.00–11.30	COFFEE BREAK	
11.30–13.30	SESSIONS	

SESSION 1. Business Intelligence for Information and Software Systems.

Special Session on Intelligent Methods for Data Analysis and Computer-Aided Software Engineering

Chaired by **prof. dr. Audrius Lopata**, Conference Hall “Čiurlionis”

- 1. Predicting user identity and personality traits from mobile sensor data**
Margit Antal, László Zsolt Szabó, Győző Nemes
- 2. Towards a Comprehensive Formal Model for Business Processes**
Khalil Mecheraoui, Nabil Belala, Djamel Eddine Saïdouni
- 3. Adaptive Control of the Metalworking Technology Systems Operation Based on the Forecast of the Actual Resource of the Cutting Tool**
Volodymyr Nahorny, Olga Aleksenko, Natalia Fedotova
- 4. Dynamic Business Process Simulation - A Rule and Context-Based Approach**
Diana Kalibatiene, Olegas Vasilecas
- 5. Research in high frequency trading and pairs selection algorithm with Baltic region stocks**
Mantas Vaitonis, Saulius Masteika
- 6. Shared resource model for allocating resources to activities in BP simulation**
Olegas Vasilecas, Kestutis Normantas, Toma Rusinaite, Titas Savickas, Tadas Vysockis

SESSION 2. Software Engineering

Special Session on Intelligent Systems and Software Engineering Advances

Chaired by **dr. Marcin Woźniak**, Conference Hall “Ratnyčělè”

- 1. A new estimator of the Mahalanobis distance and its application to classification error rate estimation**
Mindaugas Gvardinskas
- 2. Novel recursive fast sort algorithm**
Zbigniew Marszałek
- 3. A Modified Electromagnetic-Like Mechanism for Rough Set Attribute Reduction**
Majid Abdolrazzagah-Nezhada, Shaghayegh Izadpanahb
- 4. Application of Real Ant Colony Optimization algorithm to solve space fractional heat conduction inverse problem**
Rafał Brociek, Damian Słota
- 5. Introduction to the model of the active assistance system for elder and disabled people**
Dawid Połap, Marcin Woźniak
- 6. A Comparison of Mining Incomplete and Inconsistent Data**
Patrick G. Clark, Cheng Gao, Jerzy W. Grzymala-Busse

SESSION 3. Information Systems

Special Session on Innovative Applications for Knowledge Transfer Support

Chaired by **prof. dr. Sławomir Klos**, Conference Hall “Ūla”

- 1. Modelling of adequate costs of utilities services**
Janis Zuters, Janis Valeinis, Girts Karnitis, Edvins Karnitis
- 2. Views to Legal Information Systems and Legal Sublevels**
Vytautas Čyras, Friedrich Lachmayer, Erich Schweighofer
- 3. A Model of the Tacit Knowledge Transfer Support Tool: CKnow-Board**
Justyna Patalas-Maliszewska, Irene Krebs
- 4. A model of an ERP-based knowledge management system for engineer-to-order enterprises**
Sławomir Klos
- 5. Cloud-based Enterprise Information Systems: Determinants of Adoption in the Context of Organizations**
Umut Şener, Ebru Gökalp, P. Erhan Eren
- 6. Semi-Supervised Learning Approach for Ontology Mapping Problem**
Rima Linaburgyte, Rimantas Butleris
- 7. Rule-Based Canonicalization of Arbitrary Tables in Spreadsheets**
Alexey O. Shigarov, Viacheslav V. Paramonov, Polina V. Belykh, and Alexander I. Bondarev

13.30–14.30 LUNCH / Restaurant Grand Spa

14.30–16.00 Sessions

SESSION 4. Information Systems

Special Session on e-Health Information Systems

Chaired by **assoc. prof. dr. Vytenis Punys**, Conference Hall “Ūla”

- 1. Algorithm for colorblindness detection sets generation**
Maciej Laskowski
- 2. Analysis of selected elements of a rower's posture using Motion Capture – a case study**
Jerzy Montusiewicz, Jakub Smolka, Maria Skublewska-Paszowska, Edyta Lukasik, Katarzyna R. Baran, Izabela Pszczola-Pasierbiewicz
- 3. Improving Business Processes in HIS by Adding Dynamicity**
Diana Kalibatiene, Justas Trinkunas, Toma Rusinaite, Olegas Vasilecas
- 4. On Defining and Assessing of the Energy Balance and Operational Logic within Hybrid Renewable Energy Systems**
Algirdas Pakštas, Olha Shulyma, Vira Shendryk

SESSION 5. Business Intelligence for Information and Software Systems

Special Session on Intelligent Methods for Data Analysis and Computer-Aided Software Engineering

Chaired by **prof. dr. Audrius Lopata**, Conference Hall “Čiurlionis”

1. **Parallel computing for dimensionality reduction**
Jelena Zubova, Marius Liutvinavicius, Olga Kurasova
2. **A Model-Driven Approach to Adapt SysML Blocks**
Hamida Bouaziz, Samir Chouali, Ahmed Hammad, Hassan Mountassir
3. **BPMN Decision Footprint: Towards Decision Harmony along BI Process**
Riadh Ghlala, Zahra Kodja Aouina, Lamjed Ben Said
4. **A Cost-Aware and Workload-Based Index Advisor for Columnar In-Memory Databases**
Martin Boissier, Timo Dürken, Rainer Schlosser, Martin Faust
5. **S4J – Integrating SQL into Java at Compiler-Level**
Keven Richly, Martin Lorenz, Sebastian Oergel
6. **Lessons learned from tool integration with OSLC**
Andrea Leitner, Beate Herbst, Roland Mathijssen

SESSION 6. Information Technology Applications

Special Session on Smart e-Learning Technologies and Applications

Chaired by **assoc. prof. dr. Danguolė Rutkauskienė**

1. **On Suitability Index to Create Optimal Personalised Learning Packages**
Eugenijus Kurilovas, Julija Kurilova, Tomas Andruskevici
2. **Technological Challenges for Learning Objects in MOOCs Design**
Daina Gudonienė, Rūta Dapkūnaitė, Danguolė Rutkauskienė, Vytautas Štuitkys, Svitlana Kalashnikova
3. **Affective engagement to virtual and live lectures**
Judita Kasperuniene, Meet Jariwala, Egidijus Vaskevicius, Saulius Satkauskas

Technical break 10 minutes

Special Session on Internet-of-Things in Mobility Applications

Chaired by **prof. dr. Robertas Damaševičius**, Conference Hall "Ratnyčėlė"

4. **Minimization of numerical dispersion errors in 2D finite element models of short acoustic wave propagation**
Andrius Kriščiūnas, Rimantas Barauskas, Liudas Mažeika, Tautvydas Fyleris
5. **On methodology of e-wallet construction for partially off-line payment system**
Jonas Muleravičius, Eligijus Sakalauskas, Inga Timofejeva
6. **„Google“ Lithuanian Speech Recognition Efficiency Evaluation Research**
Donatas Sipavičius, Rytis Maskeliūnas

7. **Evaluation of a mobility approach to support vehicular applications using a realistic simulation framework**

Nerea Toledo, Marivi Higuero, Maider Huarte, Juanjo Unzilla

8. **An Usable Application for Authentication, Communication and Access Management in the Internet Of Things**

Matteo Cagnazzo, Markus Hertlein, Norbert Pohlmann

16.30–17.00 **COFFEE BREAK**

17.00–17.45

EQUAL-IST (H2020) PROJECT PRESENTATION

Assoc. prof. dr. Ingrida Lagzdinytė-Budnikė, assoc. prof. dr. Rytis Maskeliūnas, assoc. prof. dr. Armantas Ostreika, dr. Kęstutis Jankauskas, Ligita Zailskaitė-Jakštė
“Joining forces with business for educating the young generation of informatics specialists”
Kaunas University of Technology, Lithuania

Conference Hall
ČIURLIONIS

18.00–21.00 **FOURCHETTE / Restaurant of Grand Spa Lietuva**

 **Saturday, 15th October**

9.00–10.00 **Registration**
Reception desk, Grand Spa Lietuva, V. Kudirkos str. 45, Druskininkai

10.00–11.00

KEY NOTE
Prof. dr. Sanjay Misra
“Controlling Quality in Web-Service”
Covenant University, Nigeria

Conference Hall
ČIURLIONIS

11.00–11.30 **COFFEE BREAK**

11.30–14.00 **SESSIONS**

SESSION 7. Software Engineering

Special Session on Intelligent Systems and Software Engineering Advances

Chaired by dr. Christian Napoli and dr. Zbigniew Marszalek, Conference Hall "Ūla"

1. **Novel Image Correction Method Based on Swarm Intelligence Approach**
Marcin Woźniak
2. **Transient solution for queue-size distribution in a certain finite-buffer model with server working vacations**
Wojciech M. Kempa, Martyna Kobielnik
3. **Importance of neighborhood parameters during clustering of bathymetric data using neural network**
Marta Włodarczyk-Sielicka
4. **A Cloud Oriented Support for Motion Detection in Video Surveillance Systems using Computational Intelligence**
Christian Napoli, Emiliano Tramontana
5. **A new classifier based on the dual indiscernibility matrixl**
Piotr Artiemjew, Bartosz A. Nowak, Lech T. Polkowski
6. **Study on transient queueing delay in a single-channel queueing model with setup and closedown times**
Wojciech M. Kempa, Iwona Paprocka, Krzysztof Kalinowski, Cezary Grabowik, Damian Krenczyk
7. **Enhancing city transportation services using cloud support**
Andrea Fornaia, Christian Napoli, Giuseppe Pappalardo, Emiliano Tramontana

SESSION 8. Information Technology Applications

Special Session on Internet-of-Things in Mobility Applications

Chaired by prof. dr. Christian Reimann, Conference Hall "Ratnyčèlè"

1. **Analysing of the Voice Communication Channels for Ground Segment of Air Traffic Management System based on Embedded Cloud Technology**
Igor Kabashkin
2. **Towards a Model-based Architecture for Road Traffic Management Systems**
Florian Rademacher, Mirco Lammert, Marius Khan, Sabine Sachweh
3. **Ultra Narrow Band Radio Technology in High-density Built-up Areas**
Radim Kalfus, Tomáš Hégr
4. **Change Impact in Product Lines: A Systematic Mapping Study**
Christopher Brink, Philipp Heisig, Fabian Wackermann
5. **A Case Study on Self-Configuring Systems in IoT based on a Model-Driven Prototyping Approach**
Fabian Kneer, Erik Kamsties

SESSION 9. Information Technology Applications

Special Session on Language Technologies, part 1

Chaired by **assoc. prof. dr. Jurgita Kapočiūtė-Dzikiėnė**, Conference Hall “Čiurlionis”

- 1. Topic Classification Problem Solving for Morphologically Complex Languages**
Jurgita Kapočiūtė-Dzikiėnė, Tomas Krilavičius
- 2. Vector Space Representations of Documents in Classifying Finnish Social Media Texts**
Viljami Venekoski, Samir Puuska, Jouko Vankka
- 3. Text Type Differentiation Based on the Structural Properties of Language Networks**
Sanda Martinčić-Ipšić, Tanja Miličić, Ana Meštrović
- 4. Running out of Words: How Similar User Stories Can Help to Elaborate Individual Natural Language Requirement Descriptions**
Frederik S. Bäumer, Michaela Geierhos
- 5. Link Prediction on Tweets' Content**
Sanda Martinčić-Ipšić, Edvin Močibob, Ana Meštrović

Technical break 10 minutes

Special Session on Language Technologies, part 2

Chaired by **prof. dr. Sanda Martinčić-Ipšić**, Conference Hall “Čiurlionis”

- 6. Polyphon: An Algorithm for Phonetic String Matching in Russian Language**
Viacheslav V. Paramonov, Alexey O. Shigarov, Gennagy M. Ruzhnikov Polina V. Belykh
- 7. Automatic Detection of Nominal Events in Hungarian Texts with Dependency Parsing and WordNet**
Zoltán Subecz
- 8. Extracting location names from unstructured Italian texts using grammar rules and MapReduce**
Christian Napoli, Emiliano Tramontana, Gabriella Verga
- 9. Quality and Importance of Wikipedia Articles in Different Languages**
Włodzimierz Lewoniewski, Krzysztof Węcel, Witold Abramowicz
- 10. The Logical-Linguistic Model of Fact Extraction from English Texts**
Nina Feliksivna Khairova, Svetlana Petrasova, Ajit Pratap Gautam

14.00–15.30 LUNCH / Restaurant Grand Spa

15.30–16.00 **CLOSING CEREMONY.**
BEST PAPER AWARDS
Prof. dr. Robertas Damaševičius

Conference
Hall
ČIURLIONIS



Conference Venue

Grand Spa is a complex of hotels and conference centre which welcomes its visitors to have a pleasant stay in Druskininkai. In the very centre of the resort, cherishing old traditions of mineral water treatment, you will find a luxury 4-star Apartment Hotel "Dzūkija" , a modern 4-star Hotel "Druskininkai" with a presidential suite, and a modern Hotel "Lietuva" 3 star PLUS. The visitors are offered a number of high-quality treatment, wellness and spa procedures, entertainment in hotel water park, physical therapy, massages, services of dental clinics and beauticians. You are welcome to rebuild your physical and spiritual strength in Druskininkai Grand SPA Lietuva treatment centre – one of the largest and most modern in the Baltic countries. Choose from more than a hundred health and wellness procedures; use the services of clinical diagnostic laboratory, dental clinics, and optician. SPA Namai situated in the treatment centre offers the most effective beauty therapies along with a unique opportunity to enjoy the exceptional amber procedures in the Amber Room. The guests of the hotel are offered access to high-end restaurants, bars and active leisure facilities.

Grand Spa Lietuva

V. Kudirkos Str. 45, LT-66120 Druskininkai, Lithuania

Phone +370 313 51200, e-mail reservation@grandspa.lt



About Druskininkai



Druskininkai (population 20 000) is a year-round international resort offering mineral bath, mud and climate therapies, located 120 km from Vilnius and Kaunas. The name of Druskininkai derives from the word “salt” (“druska” in Lithuanian). That’s why you can always find various interpretations of the term here – international contemporary music festival “Druskomanija” (“Salt mania”), plein air of artists “Druskos metamorfozės” (“Metamorphosis of Salt”), exhibitions of hand-made goods made from salt, lessons of the craft for children.

For more information about Druskininkai see

<http://www.info.druskininkai.lt/en/>

“Making and Tasting Cheese” Event

All participants of ICIST 2016 are invited to join cultural-educational event during the conference. This year the programme will include:

- _ Introduction to cheese making technologies;
- _ Involvement of the participants of the group in making mocarella;
- _ Tasting more than 15 types of cheese and Lithuanian wine;
- _ Riding horses and carriages, competition of milking a cow.

Place: Didžiasalio vill., Augai Farm, Druskininkai



Kaunas University of Technology, with its eight faculties, a branch in Panevėžys, high school (gymnasium), progymnasium and nine research centres, is the second largest university in Lithuania. About 80% of Lithuania's industrial engineers have graduated from KTU. In 1990, KPI was restructured and brought into line with most Western universities. Under Parliamentary decision, it was then granted its present university status and name. Now Kaunas University of Technology is the largest technical university in Lithuania. More information about Kaunas University of Technology can be found at <http://ktu.edu>

Faculty of Informatics

The Faculty of Informatics of Kaunas University of Technology was established in 1977. The faculty currently consists of 5 departments:

- _ Department of Multimedia Engineering
- _ Department of Information Systems
- _ Department of Computer Science
- _ Department of Software Engineering
- _ Department of Applied Informatics

2 research centres:

- _ Centre of Real Time Computer Systems
- _ Technology Centre of Information Systems Design

The faculty offers the choice of Informatics, Informatics Engineering, Media Information Technology, Information Systems, and Software Systems Bachelor's degree programmes. Those pursuing the master's degree can choose from five study programmes:

- _ Informatics,
- _ Information Technologies,
- _ Computer-Assisted Education,
- _ Software Engineering,
- _ Information Systems Engineering.

Graduates of Master degree studies can pursue the academic career by choosing Informatics or Informatics Engineering doctoral studies.

Each year the Faculty of Informatics accepts around 500 new students seeking Bachelor's or Master's degree respectively. In 2016, we have more than 1750 Bachelor, 200 Master and 34 Doctoral students.

Useful Information



Lithuanian Time

Lithuania is located in the Eastern European Time Zone, GMT+2.



Currency

Euro (€)



Useful Phone Numbers

Emergency call 112

Information 118

Kaunas Airport

(Karmélava)

Information:

(+370 37) 39 93 07

(+370 37) 39 93 96

Vilnius Airport

Information:

(+370 5) 230 66 66

Kaunas Bus Station

Information:

(+370 37) 40 90 60

(+370 37) 40 90 61

Kaunas Railway Station

Information:

(+370 37) 22 10 93

Vilnius Bus Station

Information:

(+370 5) 233 57 12

Vilnius Railway Station

Information:

(+370 5) 233 00 88

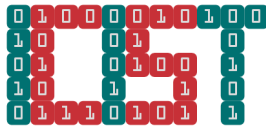
Taxi (Druskininkai)

Markizas:

(+370 313) 5 22 22

E. Buras taxi:

(+370 313) 5 55 55



CALL FOR PAPERS

23rd International Conference on Information and Software Technologies
October 12th–14th, 2017, Druskininkai, Lithuania

The International Conference on Information and Software Technologies (ICIST) is an international annual event, organized by Kaunas University of Technology. In 2015 the University will organize the 21st ICIST Conference from 15th to 16th October in Druskininkai, Lithuania.

SCOPE AND TOPICS

Information Systems



Methodologies for Information Systems Development
Conceptual Modelling, Ontologies, and Databases
Business Processes and Business Rules
Enterprise Architecture and Enterprise Modelling
Distributed Information Systems and Semantic Web
Quality of Information Systems

Business Intelligence for Information and Software Systems



Data Mining and Knowledge Discovery
Decision Support Systems
Natural Language Processing
Knowledge-Based System Engineering

Software Engineering



Software and Systems Engineering Methodologies
Model-Driven Development, SOA
Component-Based Development
Distributed, Mobile, and Open Architectures
Cloud Computing Software Quality and Testing
CASE Tools for Software Development
Security and Trust

IT Applications



E-Government and Public Sector
Enterprise Applications
IT in Teaching and Learning
Internet of Things and Smart Environments
Wireless and Mobile Applications
Computer Graphics and Multimedia

LOCATION

ICIST is organised by Kaunas University of Technology, a well-known technical university of the Baltic States, in Druskininkai, which is a year-round international spa resort offering mineral bath, mud and climate therapies. The name of the town comes from the Lithuanian word "druska", which means "salt". Druskininkai welcomes visitors with health treatment facilities, SPA complexes, AquaPark, Snow Arena, adventure park ONE and modern leisure clubs. The Old Town of Druskininkai is an urbanistic monument.

ORGANIZATION

General Chair
Eduardas Bareiša, Kaunas, Lithuania

PC Chair
Robertas Damaševičius, Kaunas, Lithuania

Local Organising Committee Chair:
Giedrė Drėgvaitė, Kaunas, Lithuania

Local Organising Committee:
icist2015@ktu.lt

PROCEEDINGS AND PUBLICATION

The paper's size should not exceed 5000 words and 12 pages (fee for extra pages is 10 EUR per page). Accepted papers will be published as a volume of Springer-Verlag CCIS.

More information is on
<http://icist.if.ktu.lt/index.php/ICIST/pages/view/AuthorsPages>

DEADLINES

27 03 2017 – Full paper submission

24 04 2017 – Notification of acceptance

09 06 2017 – Print ready paper submission

12 10 2017–14 10 2017 – Conference. Research sessions

 **Notes**



Notes
