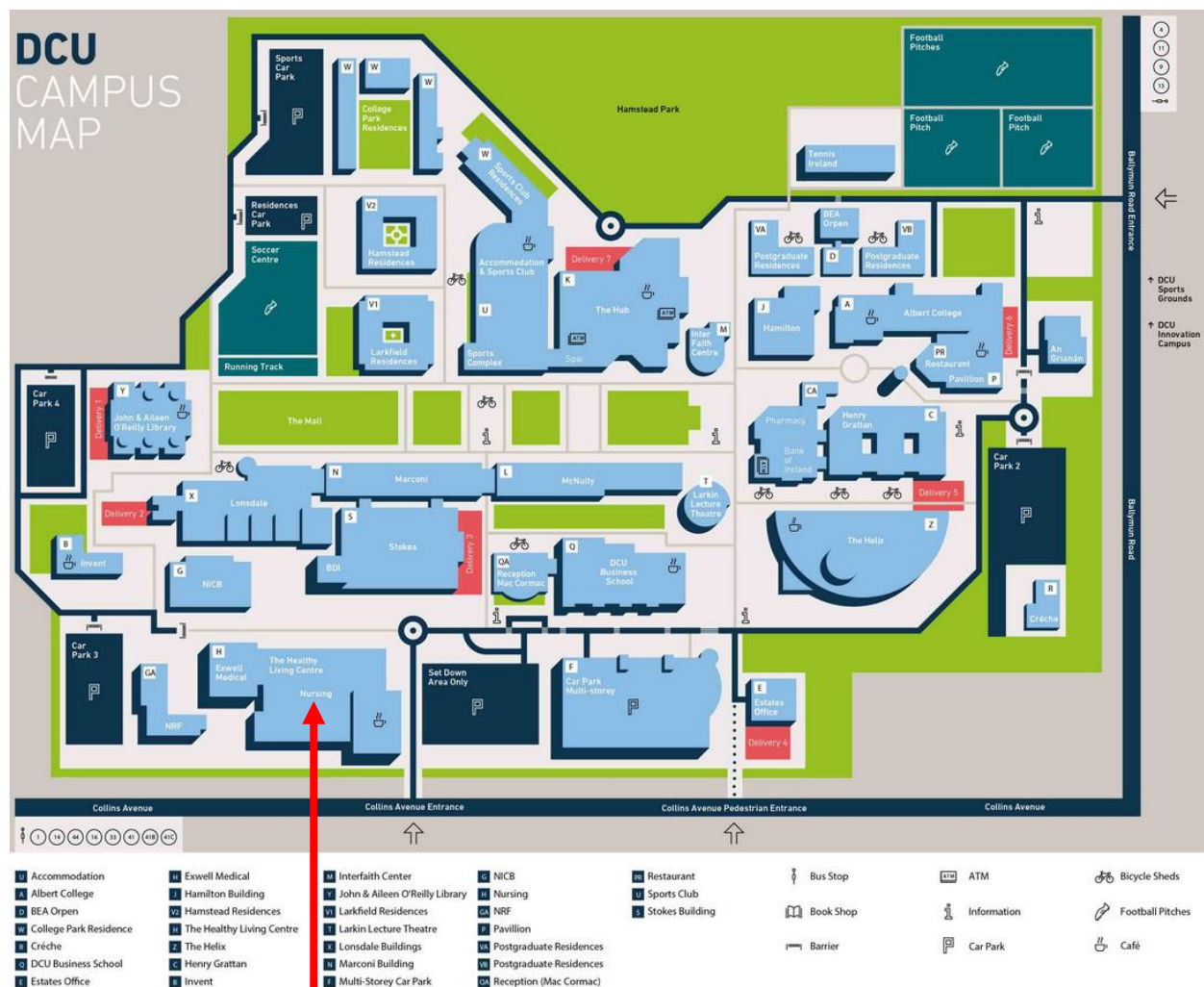


DUBLIN CITY UNIVERSITY

DCU is a young, dynamic and ambitious university with a distinctive mission to transform lives and societies through education, research and innovation. Since admitting its first students in 1980, DCU has grown in both student numbers and size and now occupies a 72 acre site in Glasnevin, just north of Dublin city.



CAMPUS MAP

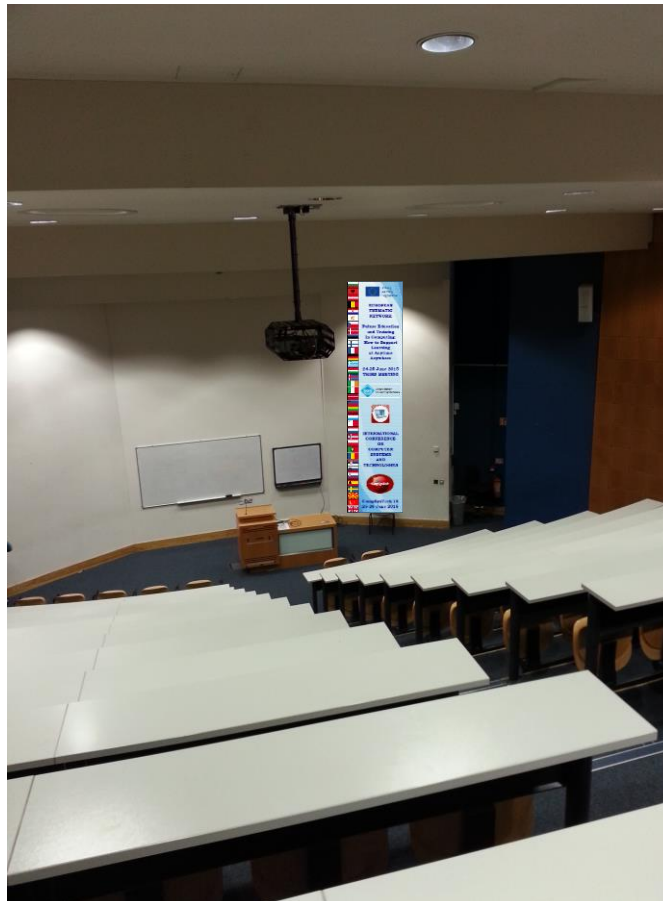


H Building (School of Nursing – Halls HG 22, HG 08, HG 10, HG 19)

H Building (School of Nursing)



Hall HG 22



Dear Participants,

WIRELESS access will be provided via EDUROAM and by password (you will get the password on the registration).

◆ CONFERENCE OBJECTIVE

The **CompSysTech'15** International Conference is organized by **THE ASSOCIATION FOR COMPUTING MACHINERY (N.Y., USA)** 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'15 is organized under the patronage of:

- **EUROPEAN COMMISSION - Education, Audiovisual and Culture Executive Agency**
- **John Atanasoff Union of Automation and Informatics**
- **Bulgarian Academy of Sciences;**
- **Bulgarian Chapter of IEEE Computer Society;**
- **Bulgarian Chapter of IEEE Communications Society.**

◆ INTERNATIONAL PROGRAMME COMMITTEE

- **Honorary Co-Chairs:**

Kiril Boyanov (Member of BAS, DSc., Bulgaria)

Vassil Sgurev (Member of BAS, DSc., Bulgaria)

- **Chair:**

Boris Rachev (QUERBIE Inc. MA USA)

- **Scientific Secretary:**

Dimo Dimov (BAS, Bulgaria)

- **Members:**

Alexander Sudnitson (Estonia)
 Alfred Iwainsky (Germany)
 Alfredo Matteo (Venezuela)
 Amar Ramdane-Cherif (France)
 Andras Benczur (Hungary)
 Antanas Zilinskas (Lithuania)
 Antonio Mendes (Portugal)
 Avram Eskenazi (Bulgaria)
 Bojan Cestnik (Slovenia)
 Boris Novikov (Russia)
 Candelaria Hernandez Goya (Spain)
 Christian-Andreas Schumann (Germany)
 Constantinos Pattichis (Cyprus)
 Dana Petcu (Romania)
 Danail Dochev (Bulgaria)
 Daniela Chuda (Slovakia)
 Diana Kalibatiene (Lithuania)
 Dieter Wuttke (Germany)
 Dimitris Karagiannis (Austria)
 Douglas Harms (United States)
 Erika Asnina (Latvia)
 Eugenijus Macikenas (Lithuania)
 George Totkov (Bulgaria)
 Georgi Gluhchev (Bulgaria)

Jouni Ikonen (Finland)
 Jukka Teuhola (Finland)
 Juliana Peneva (Bulgaria)
 Karl Jones (United Kingdom)
 Kostadin Kratchanov (Turkey)
 Krassen Stefanov (Bulgaria)
 Ladislav Hudec (Slovakia)
 Leon Rothkrantz (Netherlands)
 Leoneed Kirilov (Bulgaria)
 Lyudmil Dakovski (Bulgaria)
 Marco Porta (Italy)
 Margarita Todorova (Bulgaria)
 Maria Jose Marcelino (Portugal)
 Marite Kirikova (Latvia)
 Markus Helfert (Ireland)
 Martin Llamas Nistal (Spain)
 Michael Vassilakopoulos (Greece)
 Milena Dobрева (Malta)
 Mirjana Ivanovic (Serbia)
 Neli Maneva (Bulgaria)
 Novuz Allahverdi (Turkey)
 Olegas Vasilecas (Lithuania)
 Pavol Navrat (Slovakia)
 Peter Stanchev (United States)

Georgi Todorov (Bulgaria)	Pino Caballero-Gil (Spain)
Grisha Spasov (Bulgaria)	Radi Romansky (Bulgaria)
Gundars Alksnis (Latvia)	Radu Dobrin (Sweden)
Hannu Jaakkola (Finland)	Rebecca Bartlett (United Kingdom)
Hilda Tellioglu (Austria)	Stavros Nikolopoulos (Greece)
Howard Duncan (Ireland)	Steven Beaty (United States)
Iliya Georgiev (United States)	Stoicho Stoichev (Bulgaria)
Ivan Jelinek (Czech Republic)	Tadeusz Morzy (Poland)
Janis Grundspenkis (Latvia)	Tanja Urbancic (Slovenia)
Janusz Jablonowski (Poland)	Tzvetomir Vassilev (Bulgaria)
Jaroslav Pokorny (Czech Republic)	Ville Leppanen (Finland)
Jiri Srba (Denmark)	Vladimir Lazarov (Bulgaria)
Jordan Kolev (Bulgaria)	Yannis Manolopoulos (Greece)

♦ ORGANIZING COMMITTEE

• Co-Chairs:

Angel Smrikarov (Bulgaria)
Markus Helfert (Ireland)

• Secretary:

Eugenia Dimitrova (Bulgaria)
Thoa Pham (EIURA, Ireland)

• Members:

Stoyanka Smrikarova (Bulgaria)	Ray Walshe (Ireland)
Tzvetozar Georgiev (Bulgaria)	Howard Duncan (Ireland)
Yordan Kalmukov (Bulgaria)	Plamen Petkov (Ireland)

♦ 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

CompSysTech'15 Co-Event –

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

Thursday, 25th June 2015

09:00 – 09:30

14:30 – 15:00

Hall HG 22

REGISTRATION

15:00

Hall HG 22

OPENING

WELCOME

Chair: Marcus Helfert

MUSICAL GREETING



PLENARY SESSION

Chair: **Boris Rachev**



JAROSLAV POKORNY

Faculty of Mathematics and Physics,
Charles University, Prague, Czech Republic

<http://www.ksi.mff.cuni.cz/~pokorny/>

**Database technologies in the world
of Big Data**



VALERI MARINOV

North Dakota State University, USA

<http://www.ndsu.edu/ndsu/marinov/>

**The Things in the Internet of Things:
A Technologist's Perspective**



RORY O'CONNOR

School of Computing, Dublin City University,
Ireland

<http://www.computing.dcu.ie/~roconnor/>

**Software and Systems Engineering
Standards: A Contributor's Perspective**



DISCUSSIONS

17:00 – 18:00

Hall HG 22

REGISTRATION

PROGRAMME SUMMARY

	Hall HG 08	Hall HG 10	Hall HG 19
9:00 – 11:00	Session A Simulation and Modelling	Session C1 Information Systems and Information Retrieval (1)	Session E1 Workshop AHPISDME (1)
11:00 – 11:30	COFFEE BREAK 		
11:30 – 13:30	Session B1 Software Engineering (1)	Session C2 Information Retrieval (2) Computer Graphics and Image Processing	Session E2 Workshop AHPISDME (2)
13:30 – 14:30	LUNCH 		
14:30 – 16:00	Session B2 Software Engineering (2) Using IT to Improve Business and Life	Session D Hardware Operating Systems and Computer Networks	
16:15 – 17:00	THE BEST PAPERS AWARDS Hall HG 22		

All halls are on the ground floor of the School of Nursing.

Session A

Chair: **Georgi Todorov**
Co-Chair: **Dieter Wuttke**
Scientific Secretary: **Daniel Herfert**

Friday, 26th June 2015
09:00 – 11:00
Hall HG 08

SIMULATION AND MODELING

1. **Better workflow modelling of production processes. Re-engineering enterprise, resource and material planning in computational logistics**
Steinar Kristoffersen
2. **Dynamic Routing Using Maximal Road Capacity**
Leon Rothkrantz
3. **Predetermined Time Constant Approximation Method for Optimising Search Space Boundary by Standard Genetic Algorithm**
Kumaran Rajarathianm, J. Barry Gomm, Karl O. Jones, DingLi Yu.
4. **“Good Vibrations” – A complete software solution for experimental, operational modal analysis and operating deflection shapes**
Daniel Herfert, Maik Gollnick
5. **Interactive environment for implementation and simulation of quantum algorithms**
Nikolay Raychev, Elena Racheva

DISCUSSIONS

11:00 – 11:30
Coffee Break - Foyer

Session B1

Chair: **Krassen Stefanov**

Co-Chair: **Janusz Jabłonwski**

Scientific Secretary: **Ventsislav Nikolov**

Friday, 26th June 2015

11:30 – 13:30

Hall HG 08

SOFTWARE ENGINEERING (1)

1. **A Comparison of Security Assurance Support of Agile Software Development Methods**
Kalle Rindell, Sami Hyrynsalmi, Ville Leppänen
2. **Mitigating issues in Global Software Developments by means of Mentoring**
Cristina Casado-Lumbreras, Ricardo Colomo-Palacios
3. **Software Metrics in Students' Software Development Projects**
Pekka Mäkiäho, Timo T. Poranen, Ari Seppi
4. **Metrics for Automated Testability of Web Applications**
Miroslav Bures
5. **Reusability Based Program Clone Detection - Case Study on Large Scale Healthcare Software System**
Petri Pulkkinen, Johannes Holvitie, Olli S. Nevalainen, Ville Leppänen
6. **Compliance check software system**
Ventsislav Nikolov

DISCUSSIONS

13:30 – 14:30

Lunch

Session B2

Chair: **Valentina Dagiene**
Co-Chair: **Peter Kaczmariski**
Scientific Secretary: **Dimitar Birov**

Friday, 26th June 2015
14:30 – 16:00
Hall HG 08

SOFTWARE ENGINEERING (2)

1. **Duplicate Code Detection Algorithm**
Todor Cholakov, Dimitar Birov
2. **Towards an extensible, modular compiler construction with scalable abstractions and types**
Jari-Matti Mäkelä, Ville Leppänen

USING IT TO IMPROVE BUSINESS AND LIFE

1. **Linking physical activities and video games**
Jouni Ikonen, Petri Ryhänen, Janne Parkkila, Antti Knutas
2. **Navigation Support for Old and Handicapped Persons in Urban Regions**
Alfred Iwainsky
3. **Mobile Business Intelligence Adoption (Case of Croatian SMEs)**
Ivana Dubravac, Vanja Bevanda
4. **Using a Mobile App to Improve Performance of Management of Services Orders and Teams Processes**
Paulo R. M. Andrade, Adriano B. Albuquerque, Otávio F. Frota, Mirko A. N. Morais
5. **A novel approach for accessing WEB services based on multi touch interaction with NFC smart posters**
Rosen Ivanov

DISCUSSIONS

Session C1

Chair: **Olegas Vasilecas**

Co-Chair: **Iulian Intorsureanu**

Scientific Secretary: **Borislav Banchev**

Friday, 26th June 2015

09:00 – 11:00

Hall HG 10

**INFORMATION SYSTEMS
and
INFORMATION RETRIEVAL (1)**

1. **Architecture of Automated Communication and Data Processing System for Forensic Medicine**
Borislav Banchev, Tsvetozar Georgiev
2. **Solution for Content Interoperability among Digital Libraries for Orthodox Artefacts and Knowledge**
Desislava Paneva-Marinova, Maxim Goynov, Detelin Luchev, Radoslav Pavlov
3. **RefUTU - Automatic Bibliography Database Generation for Freely Formatted Reference Listings**
Johannes Holvitie, Ville Leppänen
4. **Cloud-Based Bibliometric Analysis Service for Systematic Mapping Studies**
Antti Knutas, Arash Hajikhani, Juho Salminen, Jouni Ikonen, Jari Porras
5. **Answering Questions Based on Gradually Learned Knowledge from the Web Using Lightweight Semantics**
Lukas Loch, Pavol Navrat, Alena Kovarova
6. **Comparison of Algorithms for Near-Optimal Dominating Sets Computation in Real-World Networks**
Martin Nehez, Dusan Bernat, Martin Klauco

DISCUSSIONS

11:00 – 11:30

Coffee Break - Foyer

Session C2

Chair: **Virginio Cantoni**
Co-Chair: **Irena Valova**
Scientific Secretary: **Ivo Marinchev**

Friday, 26th June 2015
11:30 – 13:30
Hall HG 10

INFORMATION RETRIEVAL (2)

1. **On Speeding Up the Implementation of Nearest Neighbour Search and Classification**
Ivo Marinchev, Gennady Agre
2. **Grouping Instances in kNN for Classification Based on Computer Mouse Features**
Daniela Chudá, Peter Krátky
3. **Graph-based music recommendation approach using Social Network Analysis and community detection method**
Dmitry Dolgikh, Ivan Jelínek
4. **A Graph-based Model for Malicious Code Detection Exploiting Dependencies of System-call Groups**
Stavros D. Nikolopoulos, Iosif Polenakis
5. **Big Data in Electricity-Visualization Aspect**
Ilir Keka, Betim Çiço

COMPUTER GRAPHICS AND IMAGE PROCESSING

1. **Segmentation and feature extraction in capillaroscopic videos**
Emiliano Spera, Domenico Tegolo, Cesare Valenti
2. **Portable Knitting Format - XML-based Language for Knitting Symbols Description**
Elena Zaharieva-Stoyanova, Stefan Bozov

DISCUSSIONS

13:30 – 14:30
Lunch

Session D

Chair: **Aleksander Sudnitson**

Co-Chair: **Jordan Kolev**

Scientific Secretary: **Ivan Buliev**

Friday, 26th June 2015

14:30 – 16:00

Hall HG 10

HARDWARE

1. **Early-zero 4-Phase Micro-Pipeline Controller with Protection**
Dimitar Tyanev, Yulka Petkova
2. **Imitation learning of robots by integrating Microsoft Kinect and PID Controller with a sensor for angular displacement in a robot joint**
Rositsa Botzova, Anna Lekova, Ivan Chavdarov
3. **Comparison of Two Methods for Computing FPGA-based Weighted Average Linear Spatial Filters**
Ivan Kanev

OPERATING SYSTEMS AND COMPUTER NETWORKS

1. **Diversification of System Calls in Linux Kernel**
Samuel Laurén, Sampsa Rauti, Ville Leppänen
2. **Distributed Firewall Using PKI in Mobile Ad Hoc Networks**
Jozef Filipek, Ladislav Hudec
3. **A Performance Analysis of IPSec/AH protocol for Automotive Environment**
Jan Lastinec, Ladislav Hudec

DISCUSSIONS

Session E1

Chair: **Ali Güngör**

Co-Chair: **Rositsa Doneva**

Scientific Secretary: **Diana Grigorova**

Friday, 26th June 2015

09:00 – 11:00

Hall HG 19

WORKSHOP

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

1. Does the Choice of the First Programming Language Influence Students' Grades?

Mirjana Ivanović, Zoran Budimac, Miloš Radovanović, Miloš Savić

2. Rethinking Teaching and Assessing in a Programming Course. A case study

Ásrún Matthíasdóttir, Hallgrímur Arnalds

3. E-Learning and MOOCs: a Short Investigation in the Context of the FETCH European Thematic Network

Betim Cico, Marco Porta

4. Automated Social Network Analysis of Online Student Collaboration Activity

Krzysztof Jankowski, Antti Knutas, Jouni Ikonen, Jari Porras

5. QTvity: Advancing Students' Engagement during Lectures by Using Mobile Devices

Bojan Cestnik, Marko Bohanec, Tanja Urbančič

6. Reasons for academic dishonesty in a traditional and a partially online environment: A survey

Danijela Jakšić, Patrizia Pošćić

DISCUSSIONS

11:00 – 11:30

Coffee Break - Foyer

Session E2

Chair: **Margarita Todorova**

Co-Chair: **Douglas Harms**

Scientific Secretary: **Maja Matetic**

Friday, 26th June 2015

11:30 – 13:30

Hall HG 19

WORKSHOP

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

1. **Multi-touch Interaction Techniques to Control 3D Objects on a Smartphone Screen**
Filip Hlaváček, Alena Kovárová
2. **Applying graph-based data mining concepts to the educational sphere**
András London, Áron Pelyhe, Csaba Holló, Tamás Németh
3. **Mining Student Data to Assess the Impact of Moodle Activities and Prior Knowledge on Programming Course Success**
Sabina Šišović, Maja Matetić, Marija Brkić Bakarić
4. **Association Rule Mining and Visualization of Introductory Programming Course Activities**
Maja Matetic, Marija Brkic Bakaric, Sabina Sisovic
5. **Text Mining Student Reports**
Marija Brkic Bakaric, Maja Matetic, Sabina Sisovic

DISCUSSIONS

13:30 – 14:30

Lunch

Friday, 26th June 2015

16:15

Hall HG 22

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



Friday, 26th June 2015

16:45

Hall HG 22

**Meeting
of the PROGRAMME COMMITTEE and ORGANIZING COMMITTEE
and the chairs of each sections
of the CompSysTech'15**

DUBLIN CITY UNIVERSITY

Accommodation COLLEGE PARK



REGENCY HOTEL



Wednesday, 24th June 2015, 19:30

**SOCIAL EVENING IN CELTIC NIGHT -
IN THE ARLINGTON HOTEL**



Thursday, 25th June 2015, 19:30

**SOCIAL EVENING IN THE 1838 CLUB
IN ALBERT COLLEGE**



Paintings from DUBLIN



Paintings from DUBLIN

