



Faculty of Organization and Informatics **foi**  
presents

## Central European Conference on Information and Intelligent Systems

September 21-23, 2016

Faculty of Organization and Informatics, Varaždin, Croatia

### CECIIS 2016 Final Program

DAY 1: Wednesday, September 21 <sup>st</sup>		Location
09:00-10:00	Registration	Ground floor hallway
10:00-10:30	<b>OPENING AND WELCOME SESSION</b> <i>Chair: Tihomir Hunjak</i>	2 <sup>nd</sup> Floor, Room 1
10:30-11:15	<b>KEYNOTE SPEAKER: Dragan Gašević</b> (The University of Edinburgh, UK) <b>Learning Analytics: Using Data to Understand Learning</b> <i>Chair: Blaženka Divjak</i>	2 <sup>nd</sup> Floor, Room 1
11:15-11:45	Coffee Break	Basement, Coffee bar InfoClub
11:45-12:30	<b>KEYNOTE SPEAKER: Peter Parycek</b> (Danube University Krems, Austria) <b>Big Data in the Policy Cycle: Policy Decision Making in the Digital Era</b> <i>Chair: Božidar Kliček</i>	2 <sup>nd</sup> Floor, Room 3
12:30-14:00	Lunch Break	Self-arrangement
12:30-14:00	<b>PROGRAM COMMITTEE MEETING</b>	

#### Conference Sessions

14:00-15:30	<b>DATA AND KNOWLEDGE BASES – BIG DATA</b> <i>Chair: Kornelije Rabuzin</i> <i>Location: 2<sup>nd</sup> Floor, Room 3</i>	<b>INFORMATION AND COMMUNICATIONS TECHNOLOGIES</b> <i>Chair: Melita Kozina</i> <i>Location: 2<sup>nd</sup> Floor, Room 8</i>
14:00-14:15	Dražena Gašpar, Mirela Mabić <b>NoSQL Databases for Big Data Management</b>	Valentina Đurek, Nina Begičević Ređep <b>Review on e-readiness Assessment Tools</b>
14:15-14:30	Tripo Matijević, Tijana Vujičić, Jelena Ljucović, Petar Radunović, Adis Balota <b>Performance Analysis of Girvan-Newman Algorithm on Different Types of Random Graphs</b>	Valentina Kirinić, Melita Kozina <b>Maturity Assessment of Strategy Implementation in Higher Education Institution</b>
14:30-14:45	Veronika Šimončičová, Lukáš Hrčka, Ondrej Tadanai, Pavol Tanuška, Pavel Važan <b>Data Pre-processing from Production Processes for Analysis in Automotive Industry</b>	Radovan Vrana <b>Is Open Access Still Open: The Case of Article Processing Charge</b>
14:45-15:00	Martina Šestak, Kornelije Rabuzin, Matija Novak <b>Integrity Constraints in Graph Databases – Implementation Challenges</b>	Ljiljana Zekanović-Korona, Jurica Grzunov <b>Smart Cities: The Analysis of ICT Use in Improving the Quality of Urban Living</b>

15:00-15:15		Robertina Zdjelar, Robert Kelemen, Vesna Dušak <b>Are the Croatian Cities Smart?</b> <i>Basement, Coffee bar InfoClub</i>
15:30-16:00	Coffee Break	
16:00-16:30	<b>SOFTWARE ENGINEERING QUALITY OF SOFTWARE AND SERVICES</b> <i>Chair: Neven Vrčec</i> <i>Location: 2<sup>nd</sup> Floor, Room 3</i>	
16:00-16:15	William Steingartner, Valerie Novitzká <b>Towards the Semantics of Recursive Procedures in Categorical Terms</b>	
16:15-16:30	Vadym Shkarupylo <b>A Simulation-driven Approach for Composite Web Services Validation</b>	
19:30-22:30	<b>WELCOME PARTY WITH LIGHT DINNER</b>	<i>Boutique hotel Park</i>


### Parallel Events

09:00-18:00	<b>e-SCHOOLS DAY</b>  e-Schools: Establishing a System for Developing Digitally Mature Schools (pilot project) co-financed by the European Union from the European Structural and Investment Funds	<i>2<sup>nd</sup> Floor, Room 1</i>
08:45-09:00	<b>Registration</b>	<i>Ground floor hallway</i>
09:00-09:45	<b>Introduction to the Project „e-Schools“</b> (in Croatian)	
10:00-11:45	<b>CECIIS conference program Keynote speaker: Dragan Gašević</b>	
11:45-13:15	<b>Learning Analytics</b> (in Croatian)	
13:15-14:00	Lunch Break	<i>Council Hall (Loft), FOI</i>
14:00-14:30	<b>EU projects presentation: D-TRANSFORM and LACE</b> (in English)	
14:30-16:00	<b>Creating Strategic School Documents as Part of the Framework for the Digital Maturity of School</b> (in Croatian)	
16:00-16:30	Coffee Break	
16:30-18:00	<b>Digital Competences of Educational Staff</b> (in Croatian)	
19:30-22:30	<b>WELCOME PARTY WITH LIGHT DINNER</b>	<i>Boutique hotel Park</i>
16:00-16:30	<b>STUDENT POSTER AND PRESENTATION SECTION: Posters</b> <i>Chair: Violeta Vidaček-Hainš</i>	<i>2<sup>nd</sup> Floor Hallway</i>
16:30-18:00	<b>STUDENT POSTER AND PRESENTATION SECTION: Presentations</b> <i>Chair: Violeta Vidaček-Hainš</i>	<i>3<sup>rd</sup> Floor, Faculty Hall</i>

<b>DAY 2: Thursday, September 22<sup>nd</sup></b>		<b>Location</b>
08:30-09:00	Registration	<i>Ground floor hallway</i>
09:00-09:45	<b>KEYNOTE SPEAKER: Wim Van Petegem</b> (KU Lueven, Belgium) <b>Big Data and Learning Analytics: How New Learning Technologies Will Shape the Future of Higher Education</b> <i>Chair: Vjeran Strahonja</i>	<i>2<sup>nd</sup> Floor, Room 3</i>
09:45-10:00	Coffee Break	<i>Basement, Coffee bar InfoClub</i>
10:00-11:15	<b>EDUCATION FOR INFORMATION SOCIETY – LEARNING ANALYTICS (LA) part I</b> <i>Chair: Blaženka Divjak</i> <i>Location: 2<sup>nd</sup> Floor, Room 3</i>	<b>INTELLIGENT INFORMATION SYSTEMS</b> <i>Chair: Mirko Čubrilo</i> <i>Location: 2<sup>nd</sup> Floor, Room 8</i>
10:00-10:15	Christian Ostlund, Lars Svensson, William Jobe <b>Using Small Data to Support the Design Process of Learning Environments</b>	Tijana Vujičić, Tripo Matijević, Jelena Ljucović, Adis Balota, Zoran Ševarac <b>Comparative Analysis of Methods for Determining Number of Hidden Neurons in Artificial Neural Network</b>

10:15-10:30	Blaženka Divjak, Petra Vondra <b>Learning Analytics: Meeting the Needs of Students and Teachers in Pre-tertiary Education</b>	Branimir Dropuljić, Sandro Skansi, Robert Kopal <b>Analyzing Affective States using Acoustic and Linguistic Features</b>
10:30-10:45	Antonia Bralić <b>ICT and e-learning in Higher Education in Croatia: Strategies and Current State</b>	Igor Tomičić, Markus Schatten, Bogdan Okreša Đurić, Jurica Ševa <b>Self-sustainable Agent Organizations in Massively Multi-Player On-Line Role-Playing Games – A Conceptual Framework</b>
10:45-11:00	Sandra Kučina Softić, Ana Ćorić Samardžija <b>Results of Croatian National Higher Education Survey on Use of ICT and E-learning</b>	Matija Kaniški <b>Language Based Plagiarism Detection</b>
11:00-11:15	Sanjana Buć, Blaženka Divjak <b>Environmental Factors in the Diffusion of Innovation Model: Diffusion of e-learning in a Higher Education Institution</b>	
13:00-15:00	Lunch Break	<i>Self-arrangement</i>
15:00-24:00	<b>CONFERENCE EXCURSION</b>	<i>Trip to Podravina region</i>

### Parallel Events

09:00-13:30	<b>HIGHERDECISION PROJECT</b> (in English)  fully supported by the Croatian Science Foundation under the project IP-2014-09-7854	
09:00-11:15	<b>CECIIS conference program</b>	<i>2<sup>nd</sup> Floor, Room 3</i>
11:15-12:00	<b>HigherDecision project – networking, project presentation</b>	<i>1<sup>st</sup> Floor, Room 11</i>
12:00-13:30	<b>HigherDecision project – closed project meeting</b>	<i>1<sup>st</sup> Floor, Room 11</i>
13:30-24:00	<b>CECIIS conference program</b>	
11:45-13:00	<b>SPONSOR EVENT – ROUND TABLE</b> (in Croatian): <b>Role of the Faculties in Digital Transformation of Industry (Uloga fakulteta u digitalnoj transformaciji industrije)</b> Chair: Slavko Vidović (InfoDom d.o.o.)	<i>2<sup>nd</sup> Floor, Room 3</i>
11:15-12:00	<b>SPONSOR EVENT – PRESENTATION</b> (in English): <b>Perspectives of Big Data</b> Ljiljana Perica (Oracle Hrvatska d.o.o.)	<i>2<sup>nd</sup> Floor, Room 8</i>

<b>DAY 3: Friday, September 23<sup>rd</sup></b>		<b>Location</b>
08:30-09:00	Registration	<i>Ground floor hallway</i>
09:00-10:30	<b>ECONOMICS AND INFORMATION SYSTEMS</b> <i>Chair: Nina Begičević Redep</i> <i>Location: 2<sup>nd</sup> Floor, Room 3</i>	<b>EDUCATION FOR INFORMATION SOCIETY – LEARNING ANALYTICS (LA) part II</b> <i>Chair: Valentina Kirinić</i> <i>Location: 2<sup>nd</sup> Floor, Room 8</i>
09:00-09:15	Doris Weitlaner, Selver Softic, Gundhille Breslmair, Elisabeth Pergler, Xiaoshan Liu, Thomas Loidolt <b>SEPP: A Service Evaluation Programming Platform Used for Value-based Service Pricing</b>	Vjeran Bušelić, Željko Kovačević <b>High Education Study Program Model Towards Employability. On a Way to Understand Employer's Requirements for Generic Competences</b>
09:15-09:30	Aleksandar Marković, Nikola Zornić <b>Trends in the Application of Agent-Based Modeling and Simulation</b>	Marjan Krašna <b>Quality of Students' Work in the Field of General Pedagogy</b>

09:30-09:45	Blaženka Divjak <b>Challenges of Strategic Decision-Making within Higher Education and Evaluation of the Strategic Decisions</b>	Ivana Pavlović, Maja Ćukušić, Mario Jadrić <b>Evaluating the Effectiveness of e-Learning Projects in Croatian Companies</b>
09:45-10:00	Vesna Bosilj Vukšić, Mirjana Pejić Bach, Katarina Tomičić-Pupek <b>Discrete Event Simulation in Business Processes Management Projects – a Preliminary Literature Review</b>	Milica Maričić, Aleksandar Đoković, Veljko Jeremić <b>Gender Bias in Student Assessment of Teaching Performance</b>
10:00-10:15	Darko Lugonja <b>Public Administration Development through ERP System Implementation and Interoperability Growth</b>	
10: 15-10:30	Ivana Dvorski Lacković, Vladimir Kovšca, Zrinka Lacković Vincek <b>Framework for Big Data Usage in Risk Management Process in Banking Institutions</b>	
10: 30-10:45	Jadranka Musulin, Vjeran Strahonja <b>Business Model Concept Unburdened: The State of the Art</b>	
11:00-11:15	<b>CECIIS 2017 ANNOUNCEMENT and CONFERENCE CLOSING</b>	
11:15-14:00		
14:00-16:00	<b>GUIDED TOUR OF VARAŽDIN</b>	

2<sup>nd</sup> Floor, Room 3

Self-arrangement

Meeting: FOI Building Entrance