The 16th International Conference on Informatics in Economy (IE 2017)

Conference Program

Bucharest, Romania
04 – 07 May, 2017

Conference Organizers

Bucharest University of Economic Studies

Department of Economic Informatics and Cybernetics

INFOREC Association

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THE SOFTWARE ENGINEERS

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Preface

This year, the 16th International Conference on INFORMATICS in ECONOMY (IE 2017), Education, Research & Business Technologies, was held in Bucharest, Romania, between May 4th and May 7th, 2017. The Conference promoted research results in Business Informatics and related Computer Science topics: Cloud, Distributed and Parallel Computing, Mobile-Embedded and Multimedia Solutions, E-Society, Enterprise and Business Solutions, Databases and Data Warehouses, Audit and Project Management, Quantitative Economics, Artificial Intelligence and Data mining. The Conference has represented a meeting point for participants from all over the world, both from academia and from industry.

The conference was first organized in 1993 in collaboration with researchers from Institut National des Sciences Appliquées de Lyon (INSA de Lion), France. From 1993 to 2011, the conference have been organized once at two years, publishing in ten editions high quality papers and bringing together specialists from around the world. Starting with 2012, the conference takes place annually, the 11th, 12th, 14th and 15th edition volumes have been indexed by ISI Thomson Reuters in its ISI Proceedings directory and the 13th edition volume is under evaluation.

The International Conference on Informatics in Economy is one of the first scientific events on this subject in Romania and during the last ten years has gained an international scientific recognition. At national level, remains one of the most important scientific events that gather the entire Romanian Economic Informatics community.

The conference has made partnerships with international journals like Journal of Economic Computation and Economic Cybernetics Studies and Research (http://ecocyb.ase.ro), Informatica Economica (http://revistaie.ase.ro), Economy Informatics (http://economyinformatics.ase.ro), Journal of Applied Quantitative Methods (http://www.jaqm.ro), Database Systems Journal (http://www.dbjournal.ro/), Journal of Mobile, Embedded and Distributed Systems (http://www.jmeds.eu) and International Journal of Economic Practices and Theories (www.ijept.org) to publish an extended format of the conference best papers.

A Conference such as this can only succeed as a team effort, so the Editors want to thank the International Scientific Committee and the Reviewers for their excellent work in reviewing the papers as well as their invaluable input and advice.

The Conference Team

Conference Important Events

Thursday, May 04, 2017		
Time	**Event**	**Hall name**
08:30 – 09:15	**Registration**	Aula Magna Entry Hall
09:15 – 09:45	**IE 2017 Opening Ceremony Opening speech Acad. Florin FILIP, PhD** Romanian Academy IE 2017 Committee Chair	Aula Magna
09:45 – 10:30	**Artificial Intelligence, Singularity and Transhumanism** Prof. Dan Cautis Georgetown University, United States of America	Aula Magna
10:30 – 11:15	**Optimal Design and Pricing of E-Services** Prof. Francesco MORESINO, PhD University of Applied Sciences Western Switzerland	Aula Magna
11:15 – 11:30	**"50 years of history, 12 years of public-private cooperation"** Costin Avram, Delivery VP, Crystal System	Aula Magna
11:30 – 12:00	**Systematic – Making a difference** Stefan Krause-Kjaer, Systematic, Denmark	Aula Magna
15:30 - 16:00	**CSIE 50 Registration**	Aula Magna Entry
16:00 - 18:30	**CSIE 50 Anniversary event**	Aula Magna
19:00 - 23:00	**Conference Dinner**	Marshal Garden Hotel

Friday, May 05, 2017		
Time	**Event**	**Hall name**
09:00 - 09:15	**Coffee break in the section rooms hall** **CSIE Faculty building**	
09:15 - 12:30	**Paper presentations**	Section Room
10:45 – 12:15	**Round table** **"Educaţie de calitate în invăţământul gimnazial şi liceal"**	Virgil Madgearu Conference Room (0004)
12:30 – 14:00	**Workshop** **"Cuantificarea nevoii de specialişti IT din cadrul economiei româneşti – provocări şi soluţii"**	Virgil Madgearu Conference Room (0004)

Conference Presentations Program

Cloud and Distributed/Parallel Computing

SECTION 1 Friday, 5 May, 09:15 - 12:00 – Room 2316
Chairman: **Prof. Gheorghe SILAGHI,**
 Prof. Dinu AIRINEI, PhD
Secretary: **Lect. Claudiu VINȚE, PhD**

1. **CLOUD-BASED WfMS SOLUTIONS FOR REAL-TIME COLLABORATION** - Marian STOICA, Marinela MIRCEA, Bogdan GHILIC-MICU

2. **A CLOUD SERVICE PROVIDERS RANKING APPROACH, BASED ON SAW AND MODIFIED TOPSIS METHODS** - Constanta Zoie RADULESCU, Delia Mihaela RADULESCU, Florin HARTESCU

3. **FORECASTING COMPUTER PERFORMANCE USING MATHEMATICAL MODELS – AN INCREMENTAL METHOD FOR ANALYSIS OF BANKING SYSTEMS** - Ion LUNGU, Florin-Catalin ENACHE, Adriana-Nicoleta TALPEANU

4. **IMPROVING A CLOUD BASED GENERATOR OF PORTABLE, AUTO-GUIDED AND INTERACTIVE VIRTUAL ROUTES** - Daniel HOMOCIANU, Dinu AIRINEI

5. **BROWSER MONITORING EXTENSION FOR DEVELOPING WEB NAVIGATION SELF-AWARENESS** - Vlad AIRINEI, Claudiu VINȚE

6. **WORKFLOW EXECUTION AND RESOURCE ALLOCATION IN CLOUD-AWARE SYSTEMS** - Adrian NAGY

7. **A PEER-TO-PEER DRIVEN SIMULATION ENGINE FOR SERVICE MARKETS** - Dan Claudiu NEAGU

8. **REPLICATION MODEL FOR DETERMINISTIC SYSTEMS WITH REMOTE EXECUTION** - Cezar TOADER, Rita TOADER

9. **SCALING DATABASES AND ERP SYSTEMS IN CLOUD** - Vlad DIACONITA, Razvan BOLOGA, Ana-Ramona BOLOGA

10. **RESEARCH AND DEVELOPMENT ACTIVITIES ENHANCEMENT IN HIGHER EDUCATION INSTITUTIONS THROUGH COLLABORATIVE APPLICATIONS** - Cosmin TOMOZEI, Iulian FURDU, Liviu SOCIU

11. **CLOUD COMPUTING BASED WEB APPLICATIONS. EXAMPLES AND CONSIDERATIONS ON GOOGLE APPS SCRIPT** - Dinu AIRINEI, Daniel HOMOCIANU

Mobile-Embedded and Multimedia Solutions

1. **AN ANALYSIS OF DIFFERENT 3D REGISTRATION METHODS IN AUGMENTED REALITY** - Florentin - Alexandru DIȚĂ

2. **MOBILE APPS - USER AWARENESS ON PERMISSIONS, INFORMATION PRIVACY AND SECURITY** - Mihaela Filofteia TUTUNEA

3. **ANALYSIS AND DESIGN OF PRODUCTS TRASABILITY IN AGRO-FOOD SECTOR BASED ON RFID TECHNOLOGY** - Eleonora TUDORA, Adriana ALEXANDRU, Eugenia TIRZIU

4. **DRIVERS FOR THE CHOICE BETWEEN IOS AND ANDROID** - Rahul MAHARJAN, Leslie KLIEB, Ramona-Mihaela PAUN

5. **USING DECISION TREE AND MACHINE LEARNING TO RECOGNIZE USERS BY THEIR BEHAVIOUR** - Alin ZAMFIROIU, Radu BONCEA

6. **SEMANTIC WEB TECHNOLOGIES TO SUSTAIN UBIQUITOUS LEARNING** - Aymeric BOUCHEREAU, Ioan ROXIN

7. **A BUSINESS MODEL FOR REVITALIZATION OF CULTURAL INSTITUTIONS BY USING MODERN ICT TOOLS** - Cristian CIUREA, Florin Gheorghe FILIP

8. **MR@OLD A MOBILE APPLICATION FOR SENIORS' CONGNITIVE IMPAIRMENTS** - Sergiu JECAN, Lucia RUSU, Dan-Andrei SITAR-TĂUT, Daniel MICAN

9. **ON IMAGE STEGANOGRAPHY METRICS FOR MOBILE PLATFORMS** - Crina Anina BEJAN, Dominic BUCERZAN

10. **HUMAN AND NON-HUMAN VITAL SIGNS MONITORING** - Felician ALECU, Paul POCATILU, Sergiu CAPISIZU

11. **ACTIVE LEARNING – A NEW PARADIGM IN MOBILE EDUCATION** - Mihai DOINEA, Lorena BATAGAN, Bogdan IANCU

12. **SMART E-COMMERCE FRAMEWORK: AUGMENTED REALITY, MOBILE, AND COGNITIVE APPLICATION** - Claudiu BRANDAS, Otniel DIDRAGA, Dario HUMA

Databases and Data Warehouse

1. **BUSINESS INTELLIGENCE SOLUTION FOR MONITORING THE KEY PERFORMANCE INDICATORS ON THE ENERGY WHOLESALE MARKET -** Alexandra FLOREA, Adela BÂRA, Ion LUNGU, Osman Bülent TÖR

2. **DATA ANALYTICS APPROACH IN BUSINESS TRANSFORMATION CONTEXT -** Gabriel NEAGU, Mădălina Cornelia ZAMFIR, Mihaela Electra MITAN

3. **MEDICAL GRAPH DATABASE ON NOSQL ENVIRONMENT -** Loredana MOCEAN

4. **DEMAND SIDE MANAGEMENT OF INTERNET OF THINGS DATA. -** Simona Vasilica OPREA, Bogdan George TUDORICA, Anda BELCIU, Iuliana BOTHA

5. **BIG DATA APPLICATIONS FOR DISASTER MANAGEMENT -** Muhammad ARSLAN, Ana-Maria ROXIN, Christophe CRUZ, Dominique GINHAC

6. **IN-MEMORY DATABASE SYSTEMS. THE CASE OF ORACLE VS. MICROSOFT SQL SERVER -** Marin FOTACHE, Ionuţ HRUBARU, Alexandru TICĂ

7. **CHANGING TELECOM BUSINESS MODEL: COLLECTING AND LEVERAGING BIG DATA -** Ioan DRĂGAN, Răzvan Daniel ZOTA

8. **CUSTOMER DATA WAREHOUSE FOR RAILWAYS BUSINESS DEVELOPMENT -** Aida-Maria POPA

Audit and Project Management

1. **GREENER SOFTWARE WITH AGILE METHODS** - Laura-Diana RADU

2. **LEAN IT AS A MEANS FOR PROJECT MANAGEMENT IMPROVEMENT FOR ROMANIAN IT PROJECTS** - Mihai VRÎNCUȚ, Vasile DEAC, Ruxandra DINULESCU

3. **A STUDY ON AGILE SOFTWARE DEVELOPMENT COMMUNITY OF PRACTICE IN BUCHAREST** - Eduard Nicolae BUDACU

4. **FAILOVER CLUSTERS ENGINEERING AND REENGINERING WITHIN THE RESEARCH PROJECTS DEVELOPMENT PROCESS** - Iulian FURDU, Cosmin TOMOZEI, Cristian AMANCEI

5. **GATHERING THREAT INTELLIGENCE FROM MALWARE ANALYSIS PLATFORMS FOR E-BUSINESS SYSTEMS SECURITY** - Sergiu SECHEL

6. **THE USE OF AGILE SOFTWARE DEVELOPMENT IN ROMANIAN IT INDUSTRY: AN EMPIRICAL STUDY** - Florin DUMITRIU, Doina FOTACHE, Gabriela MEȘNIȚĂ, Georgiana OLARU

Quantitative Economics

1. **EVALUATING THE IMPACT OF A MONETARY POLICY SHOCK UNDER DIFFERENT MONETARY POLICY RULES AND DIFFERENT APPROACHES TO MODELLING EXPECTATIONS** - Raluca-Elena POP

2. **WHY DO COMPETING BUSINESSES OPEN UP NEXT TO ONE ANOTHER? NASH EQUILIBRIUM IN OPENING HYPERMARKETS IN BUCHAREST** - Cristina STOICESCU

3. **FACTORS INFLUENCING ADOPTION OF MOBILE BANKING IN INDIA** - Chanchal MALHOTRA, Leslie KLIEB, Ramona-Mihaela PAUN

4. **THE PENALTY PRODUCTION MODEL – AN ALTERNATIVE WORKING CAPITAL SOLUTION FOR REVERSE SUPPLY CHAINS** - Anca Iuliana NICOLAE

5. **LINEAR MODELS WITH UNCERTAINTY FACTORS AND SOME ASPECTS OF DECISION MAKING** - Lilian GOLBAN

6. **THE FACTORS INFUENCING THE AVERAGE PENSIONS OF STATE SOCIAL INSURANCE IN ROMANIA** - Georgiana Cristina TOMA (ROSU), Gabriela TUCHILUS

7. **INCOME MICROSIMULATION FOR ESTIMATING THE POVERTY REDUCTION EFFECTS OF CASH TRANSFERS FOR FAMILIES WITH CHILDREN** - Eva MILITARU, Madalina Ecaterina POPESCU

8. **MICROSOFT EVENT STUDY ANALYSIS ON USA FINANCIAL MARKET** - Alexandru COŞER

9. **REAL EXCHANGE RATE AND GROWTH. CASE STUDY ON ROMANIA** - Mihai Daniel ROMAN

10. **POOR-DATA, LOW-INFORMATION AND BLACK KNOWLEDGE IN CONTEXT OF GREY SYSTEMS. AN ANALYSIS FROM THE PERSPECTIVE OF UNCERTAINTY IN MULTINOMIAL CLASSIFICATION** - Emil SCARLAT, Virginia MARACINE, Andrada BARBUL

11. **ECONOMIC CONSEQUENCES OF TERRORISM** - Diana Mihaela STĂNCULESCU

12. **MEASURING THE INFLUENCE OF ECONOMIC AND SOCIAL INEQUALITY ON GROWTH. EMPIRICAL EVIDENCES FOR CENTRAL AND EASTERN EUROPE** - Ana Michaela ANDREI, Angela GALUPA, Irina GEORGESCU

13. **DECISIONAL MODELS IN PRODUCTION ACTIVITY FOR DIFFERENT STRUCTURES OF MARKET** - Anatol GODONOAGĂ, Anatolie BARACTARI

14. **DEUTSCHE BANK IN THE CONTEXT OF EUROPEAN BANKING CRISIS. VIABLE SYSTEM MODEL** - Ionuț Costinel NICA, Nora CHIRITA, Laura Adriana BĂDIȚOIU, Daniel Dumitru BĂDIȚOIU

Artificial Intelligence and Data-mining

1. **ECONOMIC EFFICIENCY COMPUTING FOR FAILURE - TOLERANT TECHNICAL SYSTEMS USING ARTIFICIAL INTELLIGENCE** - Mariana DUMITRESCU

2. **DISCUSSIONS ABOUT BRIDGING THE GAP BETWEEN BUSINESS RULES AND ONTOLOGIES** - Sabina-Cristiana NECULA, Catalin STRIMBEI

3. **STOCK MARKET FORECASTING USING WAVELET DENOISING TECHNIQUE AND SUPPORT VECTOR MACHINES** - Cătălina-Lucia COCIANU, Hakob GRIGORYAN, Cristian USCATU

4. **DESIGN AND IMPLEMENTATION OF A DEREFERENCING SERVICE FOR ENTERPRISE RESOURCE IDENTIFIERS** - Mihai CINPOERU

5. **USING ONTOLOGIES FOR CYBERSECURITY** - Ion SMEUREANU, Tiberiu Marian GEORGESCU

6. **IT GRADUATES AS INNOVATION AGENTS: A SURVEY ON STUDENTS' INTENTIONS TO PROMOTE INTELLIGENT TECHNOLOGIES AT WORKPLACE** - Radu Ioan MOGOŞ, Constanţa-Nicoleta BODEA, Stelian STANCU, Maria-Iuliana DASCĂLU

7. **BANKRUPTCY PREDICTION MODELS FOR ROMANIAN RESTAURANTS** - Ionela-Cătălina TUDORACHE (ZAMFIR)

8. **SUCCESSFUL SOCIAL GAMES AND THEIR SUPER-POWER: BIG DATA ANALYTICS** - Roxana Ioana STIRCU

E-Society, Enterprise and Business Solutions

1. **EXPLORING THE RELATIONSHIP BETWEEN SOCIAL INFLUENCE AND ADDICTION IN FACEBOOK USE: A COMPARATIVE STUDY** - Vincentas LAMANAUSKAS, Dragos Daniel IORDACHE, Costin PRIBEANU

2. **BUILDING PERSONALIZED CUSTOMER RELATIONSHIPS USING A CRM SYSTEM** - Georgeta SOAVA, Anca MEHEDINTU, Mircea RADUTEANU

3. **SMART INTEGRATION OF HEALTH DATA, AGENT OF CHANGE FOR IMPLEMENTING A HOLISTIC APPROACH FOR A PERSONALISED HEALTHCARE** - Adriana ALEXANDRU, Marilena IANCULESCU, Dora COARDOŞ

4. **CLOUD-BASED ENERGY MANAGEMENT PLATFORMS AS A BUSINESS SOLUTION FOR ASSESSING THE PERFORMANCE OF EPCS** - George SUCIU, Lucian-Alexandru NECULA, Laura-Elena GHENCIU

5. **'SUBJECTIVE' AUTOMATION BETWEEN USER TAXONOMIES AND INFORMATION RETRIEVAL SYSTEMS** - Adrian STOICESCU

6. **LEARNING FRAMEWORK PARADIGM IN E-EDUCATION** - Gabriel ZAMFIR

7. **HOW ROMANIAN UNIVERSITIES RESPOND TO THE GROWING DEMAND FOR ANALYTICAL SKILLS IN THE LABOR MARKET?** - Mihaela MUNTEAN

8. **CONTRIBUTIONS TO THE DEVELOPMENT OF AN ONTOLOGY-BASED E-LEARNING SYSTEM FOR HEALTHCARE MANAGEMENT** - Lidia BAJENARU, Ion Alexandru MARINESCU

9. **DESIGN AND IMPLEMENTATION OF AN ETL APPROACH -** Mihaela I. MUNTEAN

10. **AN ONTOLOGY-BASED FRAMEWORK FOR ROMANIAN BANKING LOAN DECISION SUPPORT** - Irina RAICU, Radu CONSTANTINESCU, Camelia DELCEA, Liviu COTFAS

11. **CASE STUDY: E-LEARNING SEEN BY DIFFERENT GENERATION**S - Cătălin-Ionuț SILVESTRU, Alexandru-Robert MIHĂILĂ, Ramona-Camelia SILVESTRU, Marian-Ernuț LUPESCU, Denisa Elena VLAD

12. **A STATISTICAL ANALYSIS OF THE PROGRAMMING TECHNOLOGIES USED IN THE FREELANCING PHENOMENON** - Mihai GHEORGHE, Felix Titus FURTUNĂ, Marian DÂRDALĂ

E-Society, Enterprise and Business Solutions

1. **SEMANTIC WEB APPROACHES IN E-RECRUITMENT: A SYSTEMATIC LITERATURE REVIEW** - Mihaela-Irina ENACHESCU

2. **IN-MEMORY BUSINESS INTELLIGENCE FRAMEWORK** - Yasser AL HADAD

3. **TWO-WAY PERSISTENT DATA MIGRATION IN VIRTUAL ENTERPRISES** - Dan-Andrei SITAR-TĂUT, Sergiu JECAN, Lucia RUSU, Daniel MICAN

4. **FIRST AND SECOND ORDER DEM DERIVATIVES PROCESSING ON GPU** - Ionuț ȘANDRIC, Cristian IONIȚĂ

5. **SUITABLE LOCATION FOR A NEW SUPERMARKET IN BUCHAREST** - Ion IVAN, Florin-Cristian MIHAI, Mihai DESPA

6. **A WEB GIS SOLUTION FOR IDENTIFYING AND ANALYSIS CLUSTER TYPE AGGLOMERATIONS FROM TOURISM INDUSTRY** - Adriana REVEIU

7. **CHARACTERISTICS OF MICROSOFT BUSINESS INTELLIGENCE SOLUTIONS** - Marian Pompiliu CRISTESCU

8. **A COMPARATIVE SURVEY OF PROMINENT ENTERPRISE MODELING METHODS** - Alisa HARKAI

9. **LEVERAGING THE IoT TOWARDS RESHAPING THE ELDERLY HEALTHCARE AND AGEING WELL** - Marilena IANCULESCU, Ovidiu BICA

10. **CODE QUALITY METRICS EVALUATION PLATFORM IN SOFTWARE ENGINEERING EDUCATION** - Catalin BOJA, Madalina ZURINI, Marius POPA, Cristian TOMA

11. **A BLOCKCHAIN BASED APPLICATION SCENARIO FOR ACTIVE AGEING** - Alexandru STANCIU