The 18th International Conference on Informatics in Economy (IE 2019)

Conference Program

Bucharest, Romania
May 30th – 31st, 2019

Conference Organizers

Bucharest University
of
Economic Studies

Department of Economic
Informatics
and Cybernetics

INFOREC
Association

Main conference sponsors

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Preface

This year, the 18th International Conference on INFORMATICS in ECONOMY (IE 2019), Education, Research & Business Technologies, has been held in Bucharest, Romania, between 30th and 31st May 2019. 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 has been organized once every 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, 15th and 16th edition volumes have been indexed by ISI Thomson Reuters in its ISI Proceedings directory.

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 30th, 2019		
Time	**Event**	**Hall name**
08:30 – 09:15	**Registration**	CSIE Entry Hall (Virgil Madgearu buiding)
09:15 – 09:45	**IE 2019 Opening Ceremony** Prof. Ion SMEUREANU - Vice-rector of Bucharest University of Economic Studies Prof. Marian Dardala – Dean of Faculty of Cybernetics, Statistics and Economic Informatics	Petrom Hall (2102)
09:45 – 10:30	**The wisdom of the crowd: when, how and under what conditions?** Jan W. Owsiński Polish Academy of Sciences	Petrom Hall (2102)
10:30 – 11:15	**Submission/acceptance/rejection to/in/by peer review journals. Day of the week and seasonal bias effects. Artificial intelligence support for editors** Marcel Ausloos University of Leicester	Petrom Hall (2102)
11:15 – 12:00	**Sponsor session** Qualitance	Petrom Hall (2102)
12:00 - 13:00	**Conference Lunch**	ASE Cafeteria
13:00 - 15:15	**Paper presentations**	Section Rooms
15:15 - 15:30	**Coffee break in the section rooms hall**	
15:30 - 18:30	**Paper presentations**	Section Rooms

Conference Presentations Program

Cloud and Distributed/Parallel Computing

1. **BLOCKCHAIN SOLUTIONS FOR PEER-TO-PEER ELECTRICITY TRANSACTIONS -** Simona Vasilica OPREA, Anca Ioana ANDREESCU, Anda BELCIU (VELICANU)

2. **A DYNAMIC STRATEGY FOR LARGE DATA REPLICATION IN HETEROGENEOUS NETWORK TOPOLOGIES -** Cristian-Sorin BOLOGA, Alexandru-Ioan STAN, Doru-Catalin PASCA

3. **COMPUTER-SUPPORTED CROWDSOURCING -** Cristian CIUREA, Florin Gheorghe FILIP

4. **BUILDING A BUSINESS MODEL FOR SERVICE OFFER INTEGRATOR IN CASE OF CLOUD-IOT BASED MONITORING -** Gabriel NEAGU, Ionuț PETRE, Radu BONCEA, Dragoș Cătălin BARBU, Mihail DUMITRACHE

5. **EXPOSING JMS-BASED TRADING SOA MESSAGING API TO JS WEB CLIENTS -** Claudiu VINȚE, Andrei TOMA, Alexandru BĂRBULESCU

6. **BLOCKCHAIN ENABLED IOT SYSTEM ARCHITECTURE IN EDGE COMPUTING ENVIRONMENTS -** Nicolae VRANĂ

7. **THE BLOCKCHAIN TECHNOLOGY AND CLOUD COMPUTING IMPACT FOR CRYPTOECONOMY CONTEXT** - Dan-Cristian CEARNĂU

Mobile-Embedded and Multimedia Solutions

1. **COMPUTATIONAL MOBILE ARCHITECTURES. PRACTICAL APPROACH -** Marian Pompiliu CRISTESCU, Mihai-Gabriel CRISTIAN

2. **THE ECONOMICS OF SOFTWARE 2.0 -** Felician ALECU, Lorena BĂTĂGAN, Răzvan DINA

3. **A GENERAL FRAMEWORK BASED ON IOT TECHNOLOGY FOR SMART GOVERNANCE -** Dora COARDOȘ, Eugenia TÎRZIU, Maria GHEORGHE-MOISII

4. **TRANSFORMING BIG DATA INTO KNOWLEDGE USING SEMANTIC STREAM PROCESSING TECHNOLOGY: CHALLENGES AND EARLY PROGRESS -** Paula-Georgiana ZĂLHAN

5. **INDOOR LOCATION CHALLENGES. AN AUGMENTED REALITY APPROACH -** Alexandru Marius OBRETIN

6. **CLOUD-BASED ENERGY MONITORING AND SIMULATION IOT PLATFORM** - George SUCIU, Lucian NECULA, Ioana ROGOJANU

7. **IDENTIFYING VEHICLES IN SATELLITE IMAGERY USING TRANSFER LEARNING - CLUJ-NAPOCA EXPERIMENT** - Andreea-Elena RĂDAC

1. **THE PROTOTYPE OF A TRAFFIC SIGNS RECOGNITION SYSTEM USING MOBILE AUGMENTED REALITY -** Florentin - Alexandru DIȚĂ, Mihaela - Irina ENĂCHESCU

2. **ANDROID APP CODE COVERAGE -** Dinu MIHAIL-VĂDUVA

3. **MOBILE DATA VULNERABILITIES -** Alin ZAMFIROIU, Paul POCATILU, Sergiu CAPISIZU

4. **VOTING DAPP IN EMBEDDED DEVICES USING BLOCKCHAIN TECHNOLOGY AND SECURITY CHALLENGES -** Cristian TOMA, Marius POPA, Mihai DOINEA, Bogdan IANCU

5. **MOBILE SYSTEMS SECURITY -** Ioan ADASCALITEI

6. **WEB-BASED AD-HOC ARCHITECTURE FOR DATA PROCESSING IN A DECENTRALIZED INTERNET** - Cătălin BOJA, Cosmin CARTAS, Mădălina ZURINI

Databases and Data Warehouse

1. **DATA WEB MINING IN E-COMMERCE: PROGRESS AND PERSPECTIVES** - Armand Florin BERTEA

2. **AN EVALUATION OF ROMANIAN EDUCATION SYSTEM EFFICIENCY** - Ionela-Cătălina ZAMFIR

3. **AN ANALYSIS OF SCIENTIFIC PUBLICATIONS ON "DECISION SUPPORT SYSTEMS" AND "BUSINESS INTELLIGENCE" REGARDING RELATED CONCEPTS USING NATURAL LANGUAGE PROCESSING TOOLS** - Daniel HOMOCIANU, Alexandru SIRETEANU, Octavian DOSPINESCU, Dinu AIRINEI

4. **MONITORING PHOTOVOLTAIC SYSTEMS LEVERAGING BIG DATA INFRASTRUCTURE** - Ștefan PREDA, Adela BÂRA

5. **ENERGY CONSUMPTION REAL TIME MONITORING IN INTERNET OF THINGS CONTEXT** - Răzvan Cristian MARALES, Osman Bülent TÖR

6. **PREDICTIVE MODELS FOR UNDERGRADUATE STUDENTS PERFORMANCE ON THE DATABASES COURSE** - Adina DIACONU, Ionuţ HRUBARU

7. **ACCESS CONTROL IN SS-BI SYSTEMS** - Aida-Maria POPA

8. **HYPERPARAMETER TUNING WITH CARET FOR AUTHOR NAME DISAMBIGUATION** - George TALABĂ

9. **BIG DATA INTEGRATION OF SMART GRID CONSUMPTION DAT**A - Vlad DIACONIȚA, Iuliana ŞIMONCA (BOTHA), Alexandra CORBEA (FLOREA)

10. **A GRAPH DATABASE APPROACH TO MANAGING DATA WITH UNPREDICTABLE SCHEMA IN ACADEMIC INFORMATION SYSTEMS DEVELOPMENT** - Ștefan UIFĂLEAN, Gheorghe Cosmin SILAGHI, Robert Andrei BUCHMANN

Audit and Project Management

1. **PROGRESSIVE MANAGEMENT METHODOLOGY FOR REAL-TIME BUSINESS INTELLIGENCE DECISION SYSTEMS** - Cristian PĂUNA

2. **AGILE PRINCIPLES AND PRACTICES IN PROJECT MANAGEMENT** - Elena MIRCEA

3. **MODELING THE IMPACT OF INFORMATION SYSTEM ON ORGANIZATIONAL CULTURE AS A REAL SUPPORT FOR INFORMATION SYSTEM SUCCESS MODEL** - Ion SMEUREANU, Bassel DIAB

4. **THE PROTECTION OF HUMAN RESOURCES' PERSONAL DATA WITHIN MODERN ORGANIZATIONS** - Cătălina SITNIKOV, Anca BĂNDOI, Camelia-Maria OLARI PERJU, Ionuț RIZA

5. **AUTOMATING USER EXPERIENCE TESTING IN MOBILE DEVELOPMENT TEAMS** - Eduard Nicolae BUDACU

6. **CHALLENGES OF SCALING AGILE AT ORGANIZATION LEVEL** - Florin DUMITRIU, Gabriela MEȘNIȚĂ, Dumitru OPREA, Laura-Diana RADU

Quantitative Economics

1. **AN OPTIMIZATION MODEL FOR SENSOR PROCUREMENT IN ELDERLY MONITORING** - Constanţa Zoie RĂDULESCU, Delia Mihaela RĂDULESCU, Mihaela TOMESCU

2. **OPTIMAL DESIGN OF E-SERVICES: A ROBUST APPROACH** - Francesco MORESINO

3. **STUDY OF THE RELATIONSHIP BETWEEN INCOME INEQUALITY AND THE POVERTY RISK THRESHOLD AT THE EUROPEAN UNION COUNTRIES** - Anca MEHEDINȚU, Georgeta ȘOAVĂ, Mihaela STERPU, Carmen ROCȘOREANU

4. **CO-MOVEMENT AND SYNCHRONICITY OF BUSINESS AND FINANCIAL CYCLES IN ROMANIA AND OTHER EEMS** - Andreea MURARU

5. **IMPACT OF ECONOMIC AND POLITICAL SYSTEMS ON HUMAN DEVELOPMENT INDEX: A COMPUTATIONAL EVALUATION** - Jani KINNUNEN, Armenia ANDRONICEANU, Irina GEORGESCU

6. **ALGORITHM FOR ADJUSTING INPUT AND OUTPUT IN A PRODUCTION PROCESS** - Anatolie BARACTARI, Ștefan BLANUȚA, Anatol GODONOAGĂ

7. **THE BERTRAND MODEL AND THE DEGREE OF PRODUCT DIFFERENTIATION** - Ciprian RUSESCU

8. **MOBILE BANKING IN INDIA** - Leslie KLIEB, Ramona- Mihaela PAUN, Chanchal MALHOTRA

9. **USING ASyMmERTy FOR COMPUTING NAIRU AND OUTPUT GAP. EMPIRICAL STUDY FOR ROMANIA** - Ana Michaela ANDREI, Sorina GRAMATOVICI, Corina-Mihaela MORTICI

10. **MONEY'S IMPORTANCE FROM THE RELIGIOUS PERSPECTIVE** - Claudiu HERTELIU, Ionel JIANU, Iulia JIANU, Vasile Catalin BOBB, Gurjeet DHESI, Sebastian Ion CEPTUREANU, Eduard Gabriel CEPTUREANU, Marcel AUSLOOS

Artificial Intelligence and Data-mining

1. **USING TEXT MINING AND RANDOM FORESTS FOR AUTHOR IDENTIFICATION. THE CASE OF CLARIVATE WEB OF SCIENCE DATABASE** - Marin FOTACHE

2. **FIXED-POINT ANALYSIS OF MOBILENETS ON KEYWORD SPOTTING** - Andrei-Marius AVRAM, Mihai COCA, Ștefan-Ciprian ARSENI

3. **FINANCIAL DATA FORECASTING USING RECURRENT NEURAL NETWORKS** - Cătălina-Lucia COCIANU, Mihai-Șerban AVRAMESCU

4. **SELF-ADAPTIVE APSO ALGORITHM FOR SOLVING DIGITAL SIGNATURE RECOGNITION TASK** - Alexandru-Daniel STAN, Cristian Răzvan USCATU

5. **SOFTWARE COMPLEXITY TOPICS THROUGH THE LENS OF DESIGN PATTERNS** - Sabina-Cristiana NECULA, Cătălin STRÎMBEI

6. **MULTI-CLASS TEXT SUPERVISED CLASSIFICATION ON ROMANIAN FINANCIAL BANKING REVIEWS** - Irina RAICU, Răzvan BOLOGA, Radu CONSTANTINESCU

7. **SEMANTIC SEARCH IN SOCIAL MEDIA ANALYSIS** - Liviu-Adrian COTFAS, Ioan ROXIN, Camelia DELCEA

E-Society, Enterprise and Business Solutions

1. **BLOCKCHAIN TECHNOLOGY - THE CONFIDENCE PROTOCOL FOR A NEW REVOLUTION IN KNOWLEDGE SOCIETY -** Marian STOICA, Bogdan GHILIC-MICU, Marinela MIRCEA

2. **GENERAL E-BUSINESS METHODS IN AGILE CONTEXT -** Paul George OPRESCU

3. **ALIGNING BIM AND GIS – CITYGML AND PLU TO ACHIEVE COMPLIANCE CHECKING MODEL -** Elio HBEICH, Ana-Maria ROXIN, Nicolas BUS

4. **TOWARD DIFFERENTIATING BUSINESS ANALYTICS, BIG DATA ANALYTICS AND DATA SCIENCE:** AN EMPIRICAL APPROACH - Mihaela MUNTEAN, Ana Ramona BOLOGA

5. **STUDENT ADMINISTRATION SYSTEMS, A NEW APPROACH FOR UNIVERSITIES -** Loredana MOCEAN

6. **THE IMPLICATIONS OF E-SOCIETY IN THE BUYING PROCESS OF AN UNIVERSITY PRODUCT: A TIME SERIES ANALYSIS -** Ion-Dănuț LIXANDRU

7. **GIS and Banking** - Florin-Cristian MIHAI

1. **PROOF OF CONCEPT FOR A BPMN-DRIVEN SEMANTIC ORCHESTRATION OF WEB APIs -** Andrei CHIŞ

2. **QUALITY ASSESSMENT OF PROCESS MODELS IN PROCESS MINING: THE CASE OF PETRI NETS -** Cristina-Claudia OSMAN

3. **ADVANTAGES AND CHALLENGES OF USING COMPONENT–BASED SOFTWARE DEVELOPMENT IN THE VISION OF BUILDING A MODERN EDUCATIONAL SYSTEM -** Irina-Miruna RADU

4. **IS B2B MARKETING STILL ACTUAL? -** Codrin TEIU

5. **BUSINESS PERFORMANCE DECISIONS BY SOCIAL BUSINESS INTELLIGENCE -** Doina FOTACHE, Ionuţ Daniel ANASTASIEI, Vasile-Daniel PĂVĂLOAIA

6. **DIGITIZED GOVERNANCE TO MITIGATE HUMAN-RELATED RISKS: A SOFTWARE BASED ON OVERALL EARLY DETECTION -** Magali DUBOSSON, Emmanuel FRAGNIERE, Nathalie JUNOD, Samuele MEIER, Sacha VARONE

7. **ANALYSIS OF USE CASES WHERE SECONDARY NOTATION COULD IMPROVE THE QUALITY OF CONCEPTUAL MODELLING -** Ana-Maria GHIRAN

8. **DESIGN AND IMPLEMENTATION OF A SOFTWARE COMPONENT FOR GEOSPATIAL DATA VISUALIZATION IN EXCEL** - Marian DÂRDALĂ, Felix Titus FURTUNĂ, Cristian IONIȚĂ

1. **SOCIAL NETWORKS: ADVANTAGES AND OPPORTUNITIES** - Ion-Costel-Marius BĂLŢOI

2. **MODELING THE EXTENSIBILITY OF THE SALES PROCESS - SAP S/4HANA APPLICATION** - Claudiu BRANDAS, Mihaela MUNTEAN, Otniel DIDRAGA, Vlad MANESCU

3. **REDUCING ICT CARBON FOOTPRINTS THROUGH ADOPTION OF GREEN COMPUTING** - David AIREHROUR, Marianne CHERRINGTON, Samaneh MADANIAN, Jagjeet SINGH

4. **AGGREGATING AN OPTIMIZED MANAGEMENT OF HEALTHCARE DATA FROM AN IOT-ENABLED SMART ENVIRONMENT WITH VIRTUAL MACHINES AND CLOUD COMPUTING. A CASE STUDY** - Dragoş Nicolae NICOLAU, Adriana ALEXANDRU, Marilena IANCULESCU

5. **ON THE CRYPTOECONOMICS EMERGING RESEARCH AREAS** - Dominic BUCERZAN, Crina Anina BEJAN

6. **AN EXPLORATORY ANALYSIS ON USING VIRTUAL LEARNING TECHNOLOGIES APPLIED IN THE TECHNICAL FIELD** - Cătălin Ionuţ SILVESTRU, Corina BOTEZ (CONSTANTIN), Virgil ION, Marian-Ernuţ LUPESCU

7. **A STANDARD ASSISTED INSTRUCTION SYSTEM IN E-EDUCATION** - Gabriel ZAMFIR

8. **THE PROFILE OF SOCIAL MEDIA USERS IN ROMANIA: INDIVIDUAL CHARACTERISTICS AND THE NUMBER OF SOCIAL CONNECTIONS** - Alexandru Razvan FLOREA, Monica ROMAN