

**PROCEEDINGS OF
THE 2015 INTERNATIONAL CONFERENCE ON
E-LEARNING, E-BUSINESS, ENTERPRISE INFORMATION
SYSTEMS, & E-GOVERNMENT**

EEE 2015

Editors

**Hamid R. Arabnia
Azita Bahrami, Leonidas Deligiannidis
Fernando G. Tinetti**

Associate Editors

**George Jandieri
Ashu M. G. Solo**



WORLD COMP'15

July 27-30, 2015

Las Vegas Nevada, USA

www.world-academy-of-science.org

©CSREA Press

This volume contains papers presented at The 2015 International Conference on e-Learning, e-Business, Enterprise Information Systems, & e-Government (EEE'15). Their inclusion in this publication does not necessarily constitute endorsements by editors or by the publisher.

Copyright and Reprint Permission

Copying without a fee is permitted provided that the copies are not made or distributed for direct commercial advantage, and credit to source is given. Abstracting is permitted with credit to the source. Please contact the publisher for other copying, reprint, or republication permission.

Copyright © 2015 CSREA Press
ISBN: 1-60132-413-8
Printed in the United States of America

CSREA Press
U. S. A.

Foreword

It gives us great pleasure to introduce this collection of papers to be presented at the 2015 International Conference on e-Learning, e-Business, Enterprise Information Systems, and e-Government (EEE'15), July 27-30, 2015, at Monte Carlo Resort, Las Vegas, USA.

An important mission of the World Congress in Computer Science, Computer Engineering, and Applied Computing (a federated congress to which this conference is affiliated with) includes *"Providing a unique platform for a diverse community of constituents composed of scholars, researchers, developers, educators, and practitioners. The Congress makes concerted effort to reach out to participants affiliated with diverse entities (such as: universities, institutions, corporations, government agencies, and research centers/labs) from all over the world. The congress also attempts to connect participants from institutions that have **teaching** as their main mission with those who are affiliated with institutions that have **research** as their main mission. The congress uses a quota system to achieve its institution and geography diversity objectives."* By any definition of diversity, this congress is among the most diverse scientific meeting in USA. We are proud to report that this federated congress has authors and participants from 76 different nations representing variety of personal and scientific experiences that arise from differences in culture and values. As can be seen (see below), the program committee of this conference as well as the program committee of all other tracks of the federated congress are as diverse as its authors and participants.

The program committee would like to thank all those who submitted papers for consideration. About 65% of the submissions were from outside the United States. Each submitted paper was peer-reviewed by two experts in the field for originality, significance, clarity, impact, and soundness. In cases of contradictory recommendations, a member of the conference program committee was charged to make the final decision; often, this involved seeking help from additional referees. In addition, papers whose authors included a member of the conference program committee were evaluated using the double-blinded review process. One exception to the above evaluation process was for papers that were submitted directly to chairs/organizers of pre-approved sessions/workshops; in these cases, the chairs/organizers were responsible for the evaluation of such submissions. The overall paper acceptance rate for regular papers was 26%; 17% of the remaining papers were accepted as poster papers (at the time of this writing, we had not yet received the acceptance rate for a few individual tracks.)

We are very grateful to the many colleagues who offered their services in organizing the conference. In particular, we would like to thank the members of the Program Committee of EEE'15, members of the congress Steering Committee, and members of the committees of federated congress tracks that have topics within the scope of EEE. Many individuals listed below, will be requested after the conference to provide their expertise and services for selecting papers for publication (extended versions) in journal special issues as well as for publication in a set of research books (to be prepared for publishers including: Springer, Elsevier, BMC journals, and others).

- Prof. Nizar Al-Holou (Congress Steering Committee); Professor and Chair, Electrical and Computer Engineering Department; Vice Chair, IEEE/SEM-Computer Chapter; University of Detroit Mercy, Detroit, Michigan, USA
- Dr. Hadeel Sh. Kareem Al-Obaidy; College of Information Technology College - Department of Computer Science, University of Bahrain, Kingdom of Bahrain
- Prof. Christine Amaldas (BIOCOMP'15 + BIOENG'15 + FECS'15); Ritsumeikan Asia Pacific University, Kyoto, Japan
- Dr. Marystella Amaldas; Academic, AIS, Ho Chi Minh City, Vietnam
- Prof. Hamid R. Arabnia (Congress Steering Committee & Coordinator); Professor of Computer Science; The University of Georgia, USA; Editor-in-Chief, Journal of Supercomputing (Springer); Editor-in-Chief, Transactions of Computational Science & Computational Intelligence (Springer); Elected Fellow, Int'l Society of Intelligent Biological Medicine (ISIBM); USA
- Prof. Mehran Asadi; Interim Chair, Department of Business and Entrepreneurial Studies, The Lincoln University, Pennsylvania, USA
- Dr. Azita Bahrami (EEE'15 Session Chair & Co-Editor); President, IT Consult, USA

- Prof. Abbas M. Al Bakry (Congress Steering Committee); University President, University of IT and Communications, Baghdad, Iraq
- Prof. Juan Jose Martinez Castillo; Director, The Acanelys Alan Turing Nikola Tesla Research Group and GIPEB, Universidad Nacional Abierta, Venezuela
- Prof. Kevin Daimi (Congress Steering Committee); Director, Computer Science and Software Engineering Programs, Department of Mathematics, Computer Science and Software Engineering, University of Detroit Mercy, Detroit, Michigan, USA
- Prof. Leonidas Deligiannidis (EEE'15 Session Chair & Co-Editor); Department of Computer Information Systems, Wentworth Institute of Technology, Boston, Massachusetts, USA
- Prof. Jinan Fiaidhi (GCA'15 + IKE'15); Department of Computer Science, Lakehead University, Ontario, Canada
- Prof. George A. Gravvanis (Congress Steering Committee); Director, Physics Laboratory & Head of Advanced Scientific Computing, Applied Math & Applications Research Group; Professor of Applied Mathematics and Numerical Computing and Department of ECE, School of Engineering, Democritus University of Thrace, Xanthi, Greece; former President of the Technical Commission on Data Processing, Social Security for the Migrant Workers, European Commission, Hellenic Presidency, Greece
- Prof. Houcine Hassan; Universitat Politecnica de Valencia, Spain
- Prof. Mohammad Shahadat Hossain (PhD, UMIST, Manchester), MBCS; Department of Computer Science and Engineering, University of Chittagong, Bangladesh; Visiting Academic Staff, The University of Manchester, UK
- Dr. M. A. Jabbar (FECS'15); IEEE Computer Society India council EXECOM Member; Aurora's Engineering College, Bhongir, Telangana, India
- Prof. George Jandieri (Congress Steering Committee); Georgian Technical University, Tbilisi, Georgia; Chief Scientist, The Institute of Cybernetics, Georgian Academy of Science, Georgia; Editorial Board Member: International Journal of Microwaves and Optical Technology, The Open Atmospheric Science Journal, American Journal of Remote Sensing
- Dr. Abdeldjalil Khelassi (BIOCOMP'15 + IKE'15); Associate Professor and Head of Knowledge and Information Engineering Research Team, Computer Science Department, University of Tlemcen, Algeria
- Dr. Andrew Marsh (Congress Steering Committee); CEO, HoIP Telecom Ltd (Healthcare over Internet Protocol), UK; Secretary General of World Academy of BioMedical Sciences and Technologies (WABT) a UNESCO NGO, The United Nations
- Prof. G. N. Pandey (Congress Steering Committee); Vice-Chancellor, Arunachal University of Studies, Arunachal Pradesh, India; Adjunct Professor, Indian Institute of Information Technology, Allahabad, India
- Dr. Akash Singh (Congress Steering Committee); IBM Corporation, Sacramento, California, USA; Chartered Scientist, Science Council, UK; Fellow, British Computer Society; Member, Senior IEEE, AACR, AAAS, and AAAI; IBM Corporation, USA
- Ashu M. G. Solo, (Publicity Chair), Fellow of British Computer Society, Principal/R&D Engineer, Maverick Technologies America Inc.
- Dr. Jacek Stando (FECS'15 + ICAI'15); President, The Society of Digital Information and Wireless Communications (SDIWC); Lodz University of Technology, Poland
- Prof. Fernando G. Tinetti (Congress Steering Committee); School of Computer Science, Universidad Nacional de La Plata, La Plata, Argentina; Co-editor, Journal of Computer Science & Technology (JCS&T)
- Prof. Shih-Jeng Wang (Congress Steering Committee); Department of Information Management, Central Police University, Taiwan; Program Chair, Security & Forensics, Taiwan; Director, Information Crypto and Construction Lab (ICCL) & ICCL-FROG
- Prof. A. Nicki Washington; Department of Systems and Computer Science, Howard University, Washington, DC, USA
- Prof. Mary Q. Yang (Congress Steering Committee); Director, Mid-South Bioinformatics Center and Joint Bioinformatics Ph.D. Program, Medical Sciences and George W. Donaghey College of Engineering and Information Technology, University of Arkansas, USA

We would like to extend our appreciation to the members of the program committees of individual sessions, tracks, and workshops; their names do not appear in this document; they are listed on the web sites of individual tracks.

As Sponsors-at-large, partners, and/or organizers each of the followings (separated by semicolons) provided help for at least one track of the World Congress: Computer Science Research, Education, and Applications Press (CSREA); US Chapter of World Academy of Science (<http://www.world-academy-of-science.org/>) ; American Council on Science & Education & Federated Research Council (<http://www.americancse.org/>); HoIP, Health Without Boundaries, Healthcare over Internet Protocol, UK

(<http://www.hoip.eu>); HoIP Telecom, UK (<http://www.hoip-telecom.co.uk>); and WABT, Human Health Medicine, UNESCO NGOs, Paris, France (<http://www.thewabt.com/>). In addition, a number of university faculty members and their staff (names appear on the cover of the set of proceedings), several publishers of computer science and computer engineering books and journals, chapters and/or task forces of computer science associations/organizations from 4 countries, and developers of high-performance machines and systems provided significant help in organizing the conference as well as providing some resources. We are grateful to them all.

We express our gratitude to keynote, invited, and individual conference/tracks and tutorial speakers - the list of speakers appears on the conference web site. We would also like to thank the followings: UCMSS (Universal Conference Management Systems & Support, California, USA) for managing all aspects of the conference; Dr. Tim Field of APC for coordinating and managing the printing of the proceedings; and the staff of Monte Carlo Resort (Convention department) in Las Vegas for the professional service they provided. Last but not least, we would like to thank the Co-Editors and Associate Co-Editors of EEE'15: Prof. Hamid R. Arabnia, Dr. Azita Bahrami, Prof. Leonidas Deligiannidis, Prof. George Jandieri, Ashu M. G. Solo, and Prof. Fernando G. Tinetti.

We present the proceedings of EEE'15.

Steering Committee, 2015

<http://www.world-academy-of-science.org/>

Contents

SESSION: MANAGEMENT ISSUES, WEB TOOLS + PREDICTION AND FORECASTING METHODS

Technical Indicators as Predictors of Position Outcome for Technical trading	3
<i>Ryan Steele, Larbi Esmahi</i>	
A Web Application Using MVC Framework	10
<i>Marissa Principe, David Yoon</i>	
Adopting Change	16
<i>Charles Balch</i>	

SESSION: E-BUSINESS, E-COMMERCE, ENTERPRISE INFORMATION SYSTEMS, TELEWORK, AND RELATED ISSUES

The Impact of Mobile Usage and Social Media on E-commerce Acceptance and Implementation in Saudi Arabia	25
<i>Eyad Makki, Lin-Ching Chang</i>	
Integration of the Real-time Simulation Systems with the Automated Control System of an Enterprise	31
<i>Konstantin Aksyonov, Eugene Bykov, Olga Aksyonova, Natalia Goncharova, Alena Nevolina</i>	
Investigating the Moderating Effect of Social Identify on Group Buying Purchase Intention	38
<i>Shwu-Min Horng</i>	
Influential Factors For Online Impulse Buying In China: A Model And Its Empirical Analysis	45
<i>Yalin Chen, Liang Zhang</i>	
Customer's Protection in E-Commerce Transaction Through Identifying Fake Online Stores	52
<i>Maureen Ifeany Akazue, Augusta Aghaulor, Ben Ighoyota Ajenaghughrure</i>	
Energy Saving Effects of Telework	55
<i>Hodaka Nakanishi</i>	
User and Provider Perspectives on ES Engagement by Chinese SMEs: A Process Analysis	61
<i>Zheng Xu, David H Brown, Mark Stevenson</i>	

SESSION: POSTER PAPERS

An English Listening Learning System based on Brainwave Meditation Recognition Technology	71
<i>Yu-Chen Kuo, Hui-Chun Chu, Chien-Jen Chen</i>	

InkAnnotation: An Annotation Tool for e-learning Environments	73
<i>Andre C. da Silva</i>	

Research on the Development of Smart Application for E-learning as an Assistive Device for People with Hearing Impairment	75
<i>Kun-min Rhee, Hye-jung Park, Shin-young Lee, Bong-geun Choi, Dae-young Na, Kyung-im Han</i>	

SESSION: E-LEARNING + EDUCATIONAL CONCEPTS AND TOOLS, AND ACADEMIA RELATED ISSUES

Visualizing the Top 400 Universities	81
<i>Salwa Aljehane, Reem Alshahrani, Maha Thafar</i>	

MPEG-SCORM: an Ontological Approach of Interoperable Metadata for Multimedia e-Learning	86
<i>Marcelo Correia Santos, Yuzo Iano</i>	

Assessment of Scoring Content and English in the First CLIL Project at a High School in Sardinia	92
<i>Chiharu Nakanishi, Hodaka Nakanishi</i>	

Building a Game-Based Internet Security Learning System by Ontology Crystallization Approach	98
<i>Shian-Shyong Tseng, Tsung-Yu Yang, Jui-Feng Weng, Yuh-Jye Wang</i>	

Research on Community Resident Autonomous Learning Based on Virtual Learning	104
<i>Fengying Li, Qingshui Xue</i>	

Evaluating Presence Perception in Video-Mediated Activities in Real Time	109
<i>Fernando Yoití Obana, Romero Tori, Edith Ranzini</i>	

Layering Information Literacy: A Taxonomy of Literacies for Academic and Lifelong Learning	116
<i>Moses Moyo, Kudakwashe Madzima, Teresa Chikerema, Hanifa Abdullah</i>	

An Investigation into the Extent and Limitations of the Grow Model for Coaching and Mentoring Online: Towards Prosthetic Learning	125
<i>Jonathan Bishop</i>	

Assessment Issues for MOOCs and Large Scale Examinations and Robust, Objective Testing with Reverse Multiple-choice	137
<i>Indu Anand, Lamia Djoudi</i>	

Teaching Mathematics at Different School Levels in Developing Countries	145
--	------------

Nabil Moussa

**SESSION: LATE BREAKING PAPERS: CORPORATE ISSUES, STANDARDS
AND POLICIES**

Funding Enabling Technologies	151
--------------------------------------	------------

Steve Richfield

Re-certification of Enterprises in Russia	156
--	------------

Vladimir Golodnov

