



AICCSA '2007

The 5th ACS/IEEE International Conference on
Computer Systems and Applications

*“Under the Patronage of His Excellency Senator Professor Dr. Adnan Badran,
Former Prime Minister of Jordan and Former Deputy Director General
of the United Nations Educational, Scientific
and Cultural Organization (UNESCO)”*

Technical Program

May 13-16, 2007
Le Méridien Amman Hotel
Amman, Jordan

Sponsored by

IEEE Computer Society



Philadelphia University, Jordan



Arab Computer Society



AICCSA'2007 General Chair's Welcome Message



Welcome to the 2007 IEEE/ACS International Conference on Computer Systems and Applications (AICCSA 2007). This year's conference marks the 5th anniversary of AICCSA, which is progressing at an excellent rate both in terms of quality and quantity.

AICCSA 2007 offers a unique forum for researchers and practitioners from academia, industry, business, and government to share their expertise results and research findings in all areas of Computer Systems and Applications.

We are honored to hold the conference under the patronage of His Excellency Senator Professor Dr. Adnan Badran, former Prime Minister of Jordan, former Deputy Director General of the United Nations Educational, Scientific and Cultural Organization (UNESCO), former Secretary General of Jordan's Higher Council for Science and Technology (HCST), and an internationally known scientist and academic who also served in

Jordan as Minister of Education, Minister of Agriculture, Founding President of Yarmouk University, Founder of Jordan University of Science and Technology (JUST), and Past President of Philadelphia University. HE Pressfor Badran will give the opening distinguished keynote speech.

This year's conference includes an outstanding technical program, distinguished keynote speakers, and insightful tutorials. We have chosen the Le Méridien Amman Hotel as the site for our conference. The hotel provides excellent meeting facilities and will be a comfortable setting for our conference. It sets in the heart of the capital city's Seven Hills. Le Méridien Amman is located in the center of the Shmeisani commercial district that is well-established in its rich cultural surroundings. The hotel is close to many attractions of Amman such as Jabal Amman, Abdoon, Seweifia shopping district, Downtown, the Citadel, and the Roman Theatre.

AICCSA 2007's technical program consists of several parallel tracks every day and it will last for four days including the tutorials day. Each track consists of several sessions of top quality papers. The topics covered in the program include software engineering, networks and telecommunications, parallel and distributed computing, database and data mining, hardware/architecture/real-time systems, Geographical Information Systems/Global Navigation Satellite Systems (GIS/GNSSs), modeling and simulation, performance evaluation, digital signal processing, image processing, pattern recognition, multimedia systems, artificial intelligence, neural networks, fuzzy logic, genetic algorithms, wireless networks and communications, web systems, security and information assurance, algorithms, bioinformatics and biomedical engineering, and e-learning.

We received this year a large number of good papers from all around the world. Only high quality papers have been accepted. The acceptance ration is about 35%. This speaks a lot about the diligent work of the technical program committee chairs, track chairs, technical program committee and reviewers. The accepted papers come from all over the World with representation from academia, industry, business and government.

Many individuals have contributed to the success of this high caliber international conference. My sincere appreciation goes to all authors including those whose papers were not included in the program. Many thanks to our distinguished keynote speakers and tutorial instructors for their valuable contribution to the conference. Special thanks to the technical program committee chairs, Prof. Krys Pawlikowski, Prof. Jose Marzo, and Prof. Pascal Lorenz. Many thanks go to the track chairs, technical program committee members and reviewers for their timely work and efforts.

Thanks to Prof. Franco Davoli for putting together an excellent tutorial program. Special thanks go to the publication chair, Juan Segovia, for his outstanding work and dedication including his efforts as a Web Co-Master. Many thanks also to Waleed Jayyousi for his excellent work as a Web Master. Thanks to posters chairs, Professors Imad Mahgoub and Richard Green, and workshops chair, Prof. Vojislav Misic.

Thanks are also due to Kelly Sutton, registration chair and our liaison with Ominipress and IEEE Computer Society. Special thanks to the international publicity committee members especially, Dr. Guoping Zeng, Dr. Essia H. Elhafsi, Dr. Mohammed Al-Mualla, Pere Vila and Su Tang. Thanks to the local publicity committee members especially, Yousef Qwasmeh. Thanks to the local arrangement committee members especially Prof. Raed Abu Zitar, Dr. Issa Shehabat, and Dr. Ayman Issa. Thanks to Dr. Balqies Sadoun, Social Event Chair, for many tasks and timely action.

We would like to thank all of our sponsors, especially Philadelphia University and its President, His Excellency Professor Marwan Kamal who has been instrumental in making sure that all local arrangements are in order.

Finally, on behalf of the 2007 IEEE/ACS International Conference on Computer Systems and Applications, AICCSA 2007, and IEEE Computer Society, I invite all of you to join us in Amman, Jordan, at AICCSA 2007. Enjoy the program and your stay in Jordan.

Mohammad S. Obaidat
General Chair, AICCSA 2007

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Sunday 13		
Time	TUTORIALS (Parallel Sessions)	
From 09:00 To 12:00	T4-Introduction to Accurate Stochastic Discrete-Event Simulation Presenter: K. Pawlikowski	T7-Semantic Web and Web Services Presenter: N. Adam
LUNCH		
From 14:00 To 17:00	T3-Security of Mobile Communications Presenter: N. Boudriga	T5-Control Problems in Multi-service, Multi-platform Telecommunication Networks Presenter: F. Davoli

Monday 14				
Time	Room			
	Almass - A	Aladdin - B	Aqiq - C	Kahrman - D
09:00 – 10:00	OPENING SESSION and Patron Distinguished Keynote Speech Coffee Break			
10:30 – 11:30	Keynote Speech: Secure Information Sharing and Dissemination in the Context of Public Security, Professor Nabil R. Adam, Rutgers University, NJ, USA			
Session 1 From 11:30 To 13:00	T1-Software Engineering I	T2-Networks and Telecomm. I	T3-Parallel/Distrib. Computing I	T5-Hardware/Architecture/Real-time Systems I
LUNCH				
Session 2 From 14:30 To 16:00	T1-Software Engineering II	T2-Networks and Telecomm. II	T3-Parallel/Distrib. Computing II	T5-Hardware/Architecture/Real-time Systems II
Coffee Break				
Session 3 From 16:30 To 18:00	T1-Software Engineering III	T2-Networks and Telecomm. III	T3-Parallel/Distrib. Computing III	T5-Hardware/Architecture/Real-time Systems III

Tuesday 15				
Time	Room			
	Almass - A	Aladdin - B	Aqiq - C	Kahrman - D
09:00 – 10:30	Keynote Speech: Routing Techniques in Wireless Sensor Networks Professor Abbas Jamalipour, Fellow IEEE, University of Sydney, Australia Coffee Break			
Session 4 From 11:00 To 13:00	T4-Database and Data Mining I	T2-Networks and Telecomm. IV	T3-Parallel/Distrib. Computing IV	T9-DSP, Image Proc., Pattern Recog., Multimedia I
LUNCH				
Session 5 From 14:30 To 16:00	T4-Database and Data Mining I	T2-Networks and Telecomm. V	SS1-Software and Applications I	T9-DSP, Image Proc., Pattern Recog., Multimedia II
Coffee Break				
Session 6 From 16:30 To 18:00	T10-Soft Computing	T2-Networks and Telecomm. VI	SS1-Software and Applications II	T9-DSP, Image Proc., Pattern Recog., Multimedia III

Wednesday 16				
Time	Room			
	Almass - A	Aladdin - B	Aqiq - C	Kahrman - D
09:00 – 10:30	Keynote Speech: Discrete-Event Computer Simulation as a Paradigm of Scientific Investigations, Professor Krzysztof Pawlikowski, University of Canterbury, New Zealand Coffee Break			
Session 7 From 11:00 To 13:00	T8-Performance Evaluation I	T12-Algorithms and Bioinform., e-Learning	T6-GIS, Glob. Nav., Sat. Systems	T9-DSP, Image Proc., Pattern Recog., Multimedia IV
LUNCH				
Session 8 From 14:30 To 16:00	T8-Performance Evaluation II	T11-Security and Inf. Assurance I	T7-Modelling and Simulation I	T9-DSP, Image Proc., Pattern Recog., Multimedia V
Coffee Break				
Session 9 From 16:30 To 18:00	T4-Database and Data Mining III	T11-Security and Inf. Assurance II	T7-Modelling and Simulation II	SS2-Processor Alloc. and Sched, HPC
CLOSING SESSION				

Opening Session

Monday, May 14, 2007, 09:00 – 10:00

Opening Remarks

Professor Mohammad S. Obaidat, IEEE Fellow, SCS Fellow, Senior Vice President of The Society for Modeling and Simulation International (SCS), Editor-in-Chief, Wiley International Journal of Communication Systems, Distinguished Speaker of IEEE Computer Society (1997-2000), Distinguished Speaker of ACM, Distinguished Lecturer of SCS, and General Chair of IEEE AICCSA 2007.

Patron and Opening Ceremony Distinguished Keynote Speaker

"Higher Education and Science and Technology in the Arab Region and Third World"



His Excellency Professor Senator Dr. Adnan Badran

Former Prime Minister of Jordan, and Former Deputy Director General of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Bio of His Excellency Professor Dr. Senator Adnan Badran

Dr. Adnan Badran is a Senator in the Jordanian Upper House and an internationally well known Jordanian scientist, academic and politician. He is the former Prime Minister of Jordan, former Deputy Director General of the United Nations Educational, Scientific and Cultural Organization (UNESCO) (1993-1998), and Assistant Director General for Science, UNESCO, Paris, France (1990-1993).

Prof. Badran served in previous governments as Minister of Agriculture and Minister of Education. He also served as the Founding President of Yarmouk University (1976-1986), Irbid, Jordan, and the Founder of Jordan University of Science and Technology (JUST), and Past President of Philadelphia University (1998-2006), and former Dean of the Faculty of Science at the University of Jordan (1971-1976). Dr. Badran obtained his BS degree from Oklahoma State University, and his MS and PhD degrees from Michigan State University. He was awarded an Honorary Doctorate by the University of Sung Kyuakwan University, Seoul, Republic of Korea.

He serves as the Secretary General and Fellow of the Third World Academy of Sciences (TWAS). He is a member of a number of academic institutions including the Institute of Biological Sciences, the American Association for the Advancement of Sciences (AAAS), the Arab Thought Forum (1978-present) and the World Affairs Council (1980-present). Dr. Adnan Badran is the elected Treasurer and Council Member of the Islamic Academy of Sciences and an elected Fellow of the Islamic Academy of Sciences (1989).

Dr. Badran has earned the Jordanian Al-Nahda and Al-Yarmouk Medals, the Istiklal (Independence) Medal of Jordan (1995), and the Alfonso X Medal of Spain. He is the author/editor of more than 18 books and 90 research papers in the field of Biology, Economic Development, Education and International Co-operation.

Distinguished Keynote Speakers

Keynote Speech 1: *"Secure Information Sharing and Dissemination in the Context of Public Security"*



Prof. Nabil Adam, Rutgers University, NJ, USA.

<http://cimic.rutgers.edu/~adam/>

Tuesday, May 15, 2007, 10:30 – 11:30

At Rutgers University in Newark, New Jersey, Dr. Nabil R. Adam is a Professor of Computers and Information Systems; the Founding Director of the Rutgers University Center for Information Management, Integration and Connectivity (CIMIC); past Director of the Meadowlands Environmental Research Institute; and the Director of the Laboratory for Water Security. Dr. Adam has published numerous technical papers in such journals as *IEEE Transactions on Software Engineering*, *IEEE Transactions on Knowledge and Data Engineering*, *ACM Computing Surveys*, *Communications of the ACM*, *Journal of Management Information Systems*, and *International Journal of Intelligent and Cooperative Information Systems*. He has coauthored/co-edited ten books. Dr. Adam is the co-founder and the Executive-Editor-in-Chief of the International Journal on Digital

Libraries and serves on the editorial board of a number of journals including *Journal of Management Information Systems*, the *Journal of Electronic Commerce*, and the *Journal of Electronic Commerce Research and Applications*. He is also the co-founder and past chair of the IEEE Technical Committee on Digital Libraries.

Dr. Adam's research work has been supported by over \$15 million from various federal and state agencies, including the National Science Foundation (NSF), the National Security Agency (NSA), NOAA, the U.S. Environmental Protection Agency, the Defense Logistics Agency (DLA), the National Library of Medicine, the New Jersey Meadowlands Commission, and NASA.

He has been invited lecture at several national and international institutions/forum including: The first US-China International Workshop on Digital Government Research and Practice (IntDG 2006), Beijing, China, Sponsored by U.S. National Science Foundation, the Chinese Academy of Sciences, and the National Natural Science Foundation of China, 2006; The Seventh World Congress on the Management of e-Business, Halifax, Canada, 2006; ETRIC, International Conference on Emerging Trends in Information and Communication Security, Germany 2006; IEEE Workshop Working Together: R&D Partnership in Homeland Security, the National Conference on Digital Government Research, 2005; Digital Library Colloquium Speaker Series, Carnegie Mellon School of Computer Science AND Lab of Education and Research on Security Assured Information Systems, University of Pittsburgh, 2005; Hungarian US R&D Workshop - Information Society technology and Research Challenges, Sponsored by NSF and ELTE Ithaka, Budapest, Hosted by Hungarian Ministry for Information & Telecommunications and Ministry of Education, Hungary, 2004; The National Conference for Digital Government Research, May 2002; The National Research Council's Workshop on Coping with Increasing Demands on Government Data Centers, 2002; The IEEE/ARL/NASA Workshop on Information Assurance, 2001; The International Symposium on Government and Ecommerce Development, Ningbo, China, April 2001, Co-sponsored by the United Nations Department of Economic and Social Affairs, the Ningbo Municipality, the Chinese Academy of Science, the Chinese Academy of Engineering, the Ministry of Information Industry of China, and Zhejiang University of China.

Keynote Speech 2: *“Routing Techniques in Wireless Sensor Networks”*



Prof. Abbas Jamalipour. University of Sydney, Australia
<http://www.ee.usyd.edu.au/~abbas/>

Tuesday, May 15, 2007, 09:00 – 10:30

Abbas Jamalipour holds a PhD from Nagoya University, Japan. He is the author of the first book on wireless IP and two other books, and has co-authored five books and over 175 technical papers, all in the field of wireless networks. He is a Fellow Member of IEEE and IEAust, an IEEE Distinguished Lecturer, the Editor-in-Chief of the IEEE Wireless Communications, and a Technical Editor of several scholarly journals including IEEE Communications, Wiley International Journal of Communication Systems, Journal of Communication Network, etc. Professor Jamalipour has been very active within the IEEE Communications Society, serving as the Chair of Satellite and Space Communications TC (2004-06); current Vice Chair of Communications Switching and Routing TC; and Chair of Chapters Coordinating Committee, Asia-Pacific Board. He is a voting member of GITC and IEEE WCNC Steering Committee. He has been a Vice Chair of WCNC2003-06, Chair of Wireless Symposium at GLOBECOM2005-07, and a symposium Co-Chair of ICC2005-08, and many other conferences. He has received several prestigious awards including IEEE Distinguished Contribution to Satellite Communications Award, IEEE Communications Society Best Tutorial Paper Award, Telstra Award for Excellence in Teaching, etc.

Keynote Speech 3: *“Discrete-Event Computer Simulation as a Paradigm of Scientific Investigations”*



Professor Krzysztof Pawlikowski. University of Canterbury, New Zealand
<http://www.cosc.canterbury.ac.nz/krysz.pawlikowski/>

Krzysztof Pawlikowski is a Professor in Computer Science and Software Engineering at the University of Canterbury, in Christchurch, New Zealand. He received a Ph.D. degree in Computer Engineering from Gdansk University of Technology, Poland, and worked at that university until February 1983. The author of over 140 journal and conference papers and four books has given invited lectures at over 80 universities and research institutes in Asia, Australia, Europe and North America. He was the Alexander-von-Humboldt Research Fellow (Germany) in 1983-84 and 1999, and a Visiting Professor at universities in Australia, Italy, Germany and the USA. His research interests include performance modelling of multimedia telecommunication networks, teletraffic modelling, computer simulation and distributed processing.

Tutorials

Sunday, May 13, 2007, 09:00 – 12:00

T4. Introduction to Accurate Stochastic Discrete-Event Simulation

Krzysztof Pawlikowski, Department of Computer Science, University of Canterbury, New Zealand

The computer revolution initiated in the twentieth century has resulted in the adoption of computer simulation as the most popular paradigm of scientific and engineering investigations. It has become the most commonly used tool in performance evaluation studies of such complex dynamic stochastic systems as telecommunication networks. Such reliance on simulation studies raises the question of credibility of the results they yield. In this tutorial, we will discuss main problems and solutions of quantitative stochastic discrete-event simulation, i.e. the stochastic simulation in which the emphasis is put on statistical correctness of the final results. Whole spectrum of the problems will be covered: from generators of pseudo-random numbers to methods of controlling precision of the final results in sequential stochastic simulation conducted in a distributed mode on multiple computers of a LAN. The latter will be discussed in the context of Multiple Replications in Parallel (MRIP) scenario, which allows to speed up stochastic simulation by launching multiple simulation engines cooperating in production of data for central analysers (one central analyser for each performance measure). An implementation of MRIP in a simulation package Akaroa2, a universal controller of distributed quantitative simulation, which automatically launches simulations on an arbitrary number of simulation engines and controls precision of an arbitrary number of analysed performance measures, both in terminating and steady-state simulation, will be also discussed. The tutorial will conclude with a survey of open research problems of quantitative stochastic simulation.

Sunday, May 13, 2007, 14:00 – 17:00

T3. Security of Mobile Communications

Noureddine Boudriga, University of Carthage, Tunisia

Mobile communications offer wireless connectivity that enables mobility and computing in many different communication environments. The huge demands from social markets are driving the growing development of mobile communications more rapidly than ever before. Consequently, a large set of new advanced techniques have emerged brought up by a larger bandwidth, more powerful processing capability, and advances in computing technology. Many new services are provided, or will be provided to potential users, and delivered with high level quality by the usage of GSM, 3G networks and wireless mesh networks in public, home, and corporate scenarios. The exceptional growth in mobile and wireless communications gives rise to serious problems of security at the level of the subscriber, network operator, and service provider. The causes of such rise, typically due to the fragility of the wireless link nature, the mobility features, and the variety of the provided services, can be classified into the following six categories: a) the physical weaknesses and limitations of mobile and communications; b) the architecture limitations; c) the user requirements; d) the contents of provided services; and e) the evolution of hacking techniques. Many studies have addressed carefully the mobile subscriber authentication, radio-path encryption, and secure mobility, but the so-called "security of mobile communications" does not involve only these relative independent domains. It indeed needs a more systematic approach to build up a framework layout capable of allowing: 1) the risk analysis of threats and vulnerabilities of a mobile communication system; 2) the assessment of a mobile communication systems in terms of provided security; 3) the protection of a service provided via mobile communication systems; and 4) the engineering and management of mobile communication security. Five major goals are considered in this tutorial: 1) analyzing and discussing the security proposals made available by the mobile communications systems; 2) highlighting the importance of security attacks and hacking techniques; 3) discussing security policies and security practices to help better addressing the security problems and limits; 4) discussing the role the network operator, the service provider, and customer in the securing mobile communications; and 5) analyzing the promises, requirements, and limits of service provision in terms of security needs.

T7. Semantic Web and Web Services

Nabil Adam, Department of Management Science and Information Systems, Rutgers University, NJ, USA

The development of the World Wide Web facilitates the advertisement and access of content over the web. The Semantic Web enriches the WWW with content-based descriptions and makes it easier to discover and publish information by machines. The main idea behind the Semantic Web is to make the meaning explicit, thereby allowing machines to process and integrate Web resources intelligently. Beyond enabling quick and accurate web search, this technology may also allow the development of intelligent internet agents and facilitate communication between a multitude of heterogeneous web-accessible devices and services.

The tutorial will be composed of two main parts; the first part shall provide the attendees a detailed understanding of the aims and challenges of Semantic Web, the design of various Semantic Web languages (such as XML, RDF, SHOE, and OWL), the role of ontologies and how to develop them, the knowledge acquisition problem, techniques for scalable reasoning, integrating heterogeneous data sources, web-based agents, and issues in developing semantic-aware applications, especially important for knowledge management applications.; the second part of the tutorial will focus on a specific application and will show how Web Services technology and SOA challenges are resolved with semantics.

T5. Control Problems in Multi-service, Multi-platform Telecommunication Networks

Franco Davoli, DIST-University of Genoa, Italy

Telecommunication Networks are complex, distributed, large-scale systems. Networking is basically a resource allocation activity, in a broad sense, where resources are typically represented by bandwidth, storage and processing capacity. The optimization of these resources, whose main final goals are to provide Quality of Service (QoS) to the users at reasonable and competitive prices and to maximize the revenue of the network operator, can be viewed under two different, related perspectives: for network planning purposes and for real time control of network operations. The importance of these aspects is enhanced by the ever-increasing presence of transfer modes based on statistical multiplexing paradigms (e.g., the Internet) and of multiple services within all types of networks. Moreover, complexity is added to the problem by the heterogeneity of networking platforms: though a sort of common paradigm at the network layer and above is that of the Internet Protocol Suite (and related QoS mechanisms), there are a number of different physical transport environments, which have widely different characteristics in terms of transmission capacity, error resilience, operational complexity, and scalability. The aim of the tutorial is to explore different areas in networking (QoS-Internet, cellular networks and wireless LANs, satellite networks, optical networks) from the point of view of resource allocation and QoS control, to outline the main problem areas and to point to some common control techniques arising in the different environments.

Monday, May 14, 2007

11:30 – 13:00

Session 1A, Room Almass

T1-Software Engineering I

Session Chair: *Haidar Safa*
American University of Beirut, Lebanon

Towards Maintainable Architecture for Process Control Applications

I. A.M. El-Maddah - Ain Shams University, Egypt; W. Abdelmoez, H.H. Ammar - West Virginia University, USA

A Meta-analysis Approach to Refactoring and XP

Steve Counsell, Robert M. Hierons, George Loizou - University of London, UK

A Formal Approach for Functional and Structural Test Case Generation in Multi-Agent Systems

Yacine Kissoum - Skikda University, Algeria; Zaidi Sahnoun - Mentouri University, Algeria

Component based development of non-visual applications using braille-speech widgets

Amina Bouraoui - UTIC-ESSTT, Tunisia

A Component Model for Network Processor Based System

Hong Xiao Di Wu - Guangdong University of Technology, China

Session 1B, Room Aladdin

T2-Networks and Telecommunications I

Session Chair: *Ismail Ababneh*
Al al-Bayt University

QoS Routing of VoIP using a Modified Widest-Shortest Routing Algorithm

Ala F. Khalifeh - University of California-Irvine, USA; Ali H. El-Mousa - University of Jordan, Jordan

Doppler Effect on Location-Based Tracking in Mobile Sensor Networks

Mohamed Hamdi, Ramzi Bellazreg - University of 7th of November at Carthage, Tunisia

A Novel Scheme for Traffic Monitoring in Optical Bursts Switched Networks

Amor Lazzez, Nouredine Boudriga - University of November 7th at Carthage, Tunisia; Mohammad S. Obaidat - Monmouth University, NJ, USA

RC-MAC: Reduced Collision MAC for Bandwidth Optimization in Wireless Local Area Networks

Mahmoud Taifour, Farid Naït-Abdesselam, David Simplot-Ryl - University of Sciences and Technologies of Lille, France

Event Boundary Detection Using Autonomous Agents in a Sensor Network

Adil Jaffer, Muhammad Jaseemuddin, Mandana Jafarian - Ryerson University, Canada; Hesham El-Sayed - UAE University, UAE

Session 1C, Room Aqiq

T3-Parallel / Distributed Computing I

Session Chair: *Ali H. El-Mousa*
University of Jordan, Jordan

Encoding Algorithms for Logic Synthesis

Valery Sklyarov, Ioulia Skliarova - University of Aveiro, Portugal

Multiple Sequence Alignment by Immune Artificial System

Abdesslem Layeb, Abdel Hakim Deneche - University Mentouri of Constantine, Algeria

Population Sizing Scheme for Genetic Algorithm

Rose Al Qasim, Taisir Eldos - Jordan University of Science and Technology, Jordan

A Novel Algorithm for Adaptive and Neutral Evolutionary Patterns Associated with HIV Drug Resistance

A. Al Mazari, A.Y. Zomaya, M. Charleston, R. J. Garsia - University of Sydney, Australia

Neuro-Fuzzy Systems Modeling Tools for Bacterial Growth

Emad A. El-Sebakhy, I.Raharja, S.Adem, Y. Khaeruzzaman - King Fahd University of Petroleum & Minerals, Saudi Arabia

Session 1D, Room Kahrman

T5-Hardware/Architecture/Real-Time Systems I

Session Chair: *Syed Misbah Uddin*
The University of Hail, Saudi Arabia

Mapping and Performance Analysis of Lookup Table Implementations on Reconfigurable Platform

Sohaib Majzoub, Hassan Diab - American University of Beirut, Lebanon

Simulation of a Secure CPU with SecureTag Technique to Defend Embedded Systems Against Buffer Overflow Attacks

Michael Georg Grasser, Johannes Priebisch, Georg Hofer, Thomas Hodanek - Graz University of Technology, Austria

Improving Inter-processor Data Transfer Rates over Industrial Networks

Syed Misbahuddin - University of Hail, Saudi Arabia; Nizar Al-Holou - The University of Detroit Mercy, USA

Automated Software Power Optimization for Smart Card Systems with Focus on Peak Reduction

M.Grumer, M.Wendt, C.Steger, R.Weiss - Graz University of Technology, Austria; U. Neffe, A. Mühlberger - NXP Semiconductors

System Level Voltage Scheduling Technique Using UML-RT Model

M.H. Neishaburi, Masoud Daneshlab, Majid Nabi, Simak Mohammadi - University of Tehran, Iran

14:30 – 16:00

Session 2A, Room Almass

T1-Software Engineering II

Session Chair: *Mohammad Ababneh*
Al-Balqa' Applied University, Jordan

Intelligent Agents and Apache Cocoon for a CV Generation System

Evelio J. González, Alberto Hamilton, Lorenzo Moreno, Juan A. Méndez, G.N. Marichal, José Sigut, Marta Sigut, J. Felipe - Universidad de La Laguna, Spain

An Approach for Specification-based Test Case Generation for Web Services

Samer Hanna, Malcolm Munro - Durham University, UK

Development of a Web Based Database-Centric Workflow Management System Using Rapid Prototyping Approach

Zahra J. Muhsin - Sunderland University, UK; Ali H. El-Mousa - University of Jordan, Jordan; Ian Potts - Sunderland University, UK

Construct Metadata Model based on Coupling Information to Increase the Testability of Component-based Software

Ma Liangli, Wang Houxiang, Li Yongjie - Naval University of Engineering, China

Session 2B, Room Aladdin**T2-Networks and Telecommunications II**

Session Chair: *Mohammad Sharawi*
Philadelphia University, Jordan

Performance Analysis of Reflection Paths for Millimeter Wavelength Systems

Z. Muhi-Eldeen, M.O. Al-Nuaimi, J. Richter - University of Glamorgan, Wales, UK; L.P. Ivrisimtzis - University of Ioannina, Greece

An Adaptive Polling Scheme to Improve Voice Transmission over Wireless LANs

Ashraf D. Milhim, Yaw-Chung Chen - National Chiao Tung University, Taiwan

A Multi-Agent Flexible Architecture for Autonomic Services and Network Management

Yazeed Al-Obasiat, Robin Braun - University of Technology, Australia

Implementation of the Sensor-MAC Protocol for the JiST/SWANS Simulator

Veerendra Tippanagoudar, Imad Mahgoub, Ahmed Badi - Florida Atlantic University, USA

Session 2C, Room Aqiq**T3-Parallel / Distributed Computing II**

Session Chair: *Ali Al-Dahoud*
Al-Zaytoonah University, Jordan

The Maximum Common Subgraph Problem: Faster Solutions via Vertex Cover

Faisal N. Abu-Khzam - Lebanese American University, Lebanon; Nagiza F. Samatova - Oak Ridge National Laboratory, USA; Mohamad A. Rizk - Lebanese American University, Lebanon; Michael A. Langston - University of Tennessee, USA

Knowledge Versus Information Contents

Fouad B. Chedid - Notre Dame University, Lebanon

MA-GMA: A Mobile Agent-based Grid Monitor Architecture

Guoqing Dong, Weiqin Tong - Shanghai University, Shanghai, China

Terminal Mobility Services in the Middleware Environment

Syed Zubair Ahmad, Mohammad Abdul Qadir - Mohammad Ali Jinnah University, Pakistan

Session 2D, Room Kahrman**T5-Hardware/Architecture/Real-Time Systems II**

Session Chair: *Majid Al-Tae*
University of Jordan, Amman, Jordan

Towards an Extension of Real-Time Java Supporting Several Multimedia Applications

M.Teresa Higuera -Toledano, Universidad Complutense de Madrid, Spain

An Exact Resource Constrained-Scheduler using Graph Coloring technique

Hadda Cherroun - A.T. University, Algeria; Paul Feautrier - ENS-Lyon, France

Software/Configware Implementation of Combinatorial Algorithms

Iouliia Skliarova, Valery Sklyarov - University of Aveiro, Portugal

Speech Unit Selection Based on Matching Pursuit

M.Hosseinpour, M.N. Ranjbar, M.Mousavinejad - Iran Telecommunication Research Center, Iran

16:30 – 18:00**Session 3A, Room Almass****T1-Software Engineering III**

Session Chair: *Munib Qutaishat*
Hashemite University, Jordan

Single Machine Total Weighted Tardiness Problem with Genetic Algorithms

António Ferrolho - Polytechnic Institute of Viseu; Manuel Crisóstomo - University of Coimbra, Portugal

Using Maintainability Based Risk Assessment and Severity Analysis in Prioritizing Corrective Maintenance Tasks

W. Abdelmoez, K. Goseva-Popstojanova, H.H. Ammar - West Virginia University, USA

Operational Semantics for Single-Action Statements of C/ATLAS

Guo Degui, Liu Lei, Zhang Jing - Jilin University, China

An Eclipse Plug-in: Dependency Browser

Dapeng Liu - Wayne State University, USA; Shaochun Xu - Laurentian University, Canada; Zhongyuan Liu - Lanzhou University of Technology, China

A Reference Model of Grouped-Metadata Object and a Change Model based on it Applying for Component-based Software Integration Testing

Ma Liangli, Wang Houxiang, Li Yongjie - Naval University of Engineering, China

Session 3B, Room Aladdin**T2-Networks and Telecommunications III**

Session Chair: *Mikhled Al-Faouri*
Philadelphia University, Jordan

A QoS-oriented Protocol for Burst Admission Control in OBS Networks

Amor Lazzez, Nouredine Boudriga - University of November 7th, Tunisia; Mohammad S. Obaidat, Sihem Guemara El Fatmi - Monmouth University, NJ, USA

Packet Reservation Multiple Access (PRMA) with Random Contention

Ahed Al-Shanyour, Ashraf Mahmoud, Tarek Sheltami, Salman A. AlQahtani - King Fahd University of Petroleum and Minerals, Saudi Arabia

A QoS Scheduler Packets for Wireless Sensor Networks

Nesrine Ouferrhat, Abdelhamid Mellouk - University of Paris XII, France

SERP: Scalable Efficient Reservation Protocol for the Future Internet

M. Mtshali - Telkom SA Ltd, South Africa; GE Ojong, MO Adigun - University of Zululand, South Africa

Session 3C, Room Aqiq**T3-Parallel / Distributed Computing III**

Session Chair: *Imad Abuelrub*
Zarqa Private University, Jordan

High Level Modelling and Design For a Microthreaded Scheduler to Support Microgrids

Nabil Hasasneh - Hebron University, Palestine; Ian Bell - University of Hull, UK; Chris Jesshope - University of Amsterdam, The Netherlands

Master/Slave Speculative Parallelization Architecture for Computer Clusters

Joan Puiggali, Teo Jové, Juan Segovia, Josep Lluís Marzo - University of Girona, Spain

Simulation-Based Performance Evaluation of Deterministic Routing in Necklace Hypercubes

S. Meraji, A. Nayebi - IPM School of Computer Science, Iran; H. Sarbazi-Azad - Sharif University of Technology, Tehran, Iran

Session 3D, Room Kahrman**T5-Hardware/Architecture/Real-Time Systems III**

Session Chair: *Iouliia Skliarova*
University of Aveiro, Portugal

Floating-Point Matrix Product on FPGA

Faycal Bensaali - University of Hertfordshire, UK; Abbes Amira - Brunel University, UK; Reza Sotudeh - University of Hertfordshire, UK

A Methodology for the Formal Verification of RISC Microprocessors A Functional Approach

S. Memiz, M. Benmohammed - Constantine University, Algeria

Improving Robustness of Real-Time Operating System (RTOS) Services Related to Soft-Errors

M.H Neishaburi, Mohammad Reza Kakooee, Masoud Daneshtalab, Saeed Safari - University of Tehran, Iran.

A New Design for 7:2 Compressors

Mahnoush Rouholamini - Science and Research Center of Hesarak, Iran; Omid Kavehie - Shahid Beheshti University, Iran; Amir-Pasha Mirbaha - University of Paris I, France; Somaye Jafarali Jasbi - Science and Research Center of Hesarak, Iran; Keivan Navi - Shahid Beheshti University, Iran

Reversible Barrel Shifters

Saeid Gorgin, Amir Kaivani - Shahid Beheshti University, Iran

Tuesday, May 15, 2007

11:00 – 13:00

Session 4A, Room Almass**T4-Database and Data Mining I**

Session Chair: *Adnan El-Nasan*
Yarmouk University, Jordan

Data Mining - Redefining the Boundaries

Malik Shahzad Kaleem Awan, Mian Muhammad Awais - Lahore University of Management Sciences, Pakistan

On Multi-Relational Data Mining for Foundation of Data Mining

Miao Liu, Hai-Feng Guo, Zhengxin Chen - University of Nebraska, USA

Digital Library Framework for Arabic Manuscripts

Wasfi G. Al-Khatib, S.A. Shahab, Sabri A. Mahmoud - King Fahd University of Petroleum & Minerals, Saudi Arabia

Weighted Naive Bayesian Classifier

Hamad Alhammady - Etisalat University College, UAE

Caching Intermediate Results for Multiple-Query Optimization

Ali-Asghar Safaeei, Mehran Kamali, Mostafa S. Haghjoo, Kamyar Izadi - Iran University of Science and Technology, Iran

Session 4B, Room Aladdin**T2-Networks and Telecommunications IV**

Session Chair: *Nizar Al-Holou*
University of Detroit Mercy, USA

Resource Sharing Systems: A Combinatorial Application to Pervasive Computing

Amgad Madkour, Sherif G. Aly - The American University In Cairo, Egypt

Solving P2P Traffic Identification Problems Via Optimized Support Vector Machines

Yue-xiang Yang, Rui Wang, Yang Liu, Shang-zhen Li, Xiao-yong Zhou - National University of Defense Technology, China

WSNodeRater - An Optimized Reputation System Framework for Security Aware Energy Efficient Geographic Routing in WSNs

Ismat K. Maarouf, A. R. Naseer - King Fahd University of Petroleum and Minerals, Saudi Arabia

Session awareness issues for next generation cluster based network load balancing frameworks

Narjess Ayari, Denis Barbaron - France Telecom R&D, France; Laurent Lefèvre, Pascale Primet - INRIA / LIP, France

Session 4C, Room Aqiq**T3-Parallel / Distributed Computing IV**

Session Chair: *Walter Dosch*
University of Lubeck, Denmark

A Novel Algorithm to Extract Tri-Literal Arabic Roots

Mohammed Momani, Jamil Faraj - PC Doctors Est., Jordan

New Election Algorithm based on Assistant in Distributed Systems

Mahdi Zargarnataj - Shahid Beheshti University, Iran

An Intelligent Replication Framework for Data Grids

Ali Elghirani, Albert Y. Zomaya, Riky Subrata - University of Sydney, Australia

The Performance Evaluation of a Local Transaction Service in support of Juxtaposed CORBA Components

Mohammad Ghaem Tajgardoan - Ministry of Science, Researches and Technology, Iran; Mohammad Hassan Tajgardoan - Khaje Nasir Toosi University of Technology, Iran

Remote Monitoring of Vehicle Diagnostics and Location Using a Smart Box with Global Positioning System and General Packet Radio Service

Majid A. Al-Taei, Omar B. Khader, Nabeel A. Al-Saber - University of Jordan, Jordan

Session 4D, Room Kahrman**T9-DSP/Image Processing/Pattern Recognition/Multimedia I**

Session Chair: *Mohammed Almualla*
Etisalat University College, UAE

Security Enhancement for Watermarking Technique Using Content based Image Segmentation

M.A. Suhail - University of Bradford, UK; M.S. Obaidat - Monmouth University, USA

A DCT-Based Watermarking Technique for Image Authentication

Mohamed Al Baloshi, Mohammed E. Al-Mualla - Etisalat University College, UAE

Robustness-Conserved Partially Host-Adaptive Watermarking Using a Baseband-Spread Spectrum Coding Technique

Ali E. Hameed, Majid A. Alwan - University of Basrah, Iraq

Occlusion Handling for Object Tracking in Crowded Video Scenes Based on the Undecimated Wavelet Features

M.Khansari, H.R. Rabiee, M.Asadi - Sharif University of Technology, Iran; M.Ghanbari - University of Essex, England, UK

A Novel Approach for fingerprint Singular Points Detection Using 2D-Wavelet

Alireza Ahmadyard - Shahrood University of Technology, Iran;
Masoud S. Nosrati - Amirkabir University of Technology, Iran

14:30 – 16:00

Session 5A, Room Almazz**T4-Database and Data Mining II**

Session Chair: *Nedal Al-Hanbali*
Al-Balqa' Applied University, Jordan

FGC: An Efficient Constraint Based Frequent Set Miner

Russel Pears, Sangeetha Kutty - Auckland University of Technology,
New Zealand

Mining Streaming Emerging Patterns from Streaming Data

Hamad Alhammady - Etisalat University College, UAE

Use of Rough Sets for the Identification and Analysis of Dependencies and Relationships in Biocontrol of Weeds

Mohamed Elhadi - Sultan Qaboos University, Oman; Wojciech
Ziarko - University of Regina, Canada

Database Replication: Availability and Consistency Assurance via Stream Processing

Morteza Abbaszadeh Meinagh - Islamic Azad University, Iran;
Ayaz Isazadeh - Tabriz University, Iran; Bager Zarei, Mehdi Zarei -
Azad University, Iran

Session 5B, Room Aladdin**T2-Networks and Telecommunications V**

Session Chair: *Abbas Jamalipour*
University of Sydney, Australia

A Heuristic Genetic Algorithm for the Single Source Shortest Path Problem

Basela S. Hasan - Arab Open University, Jordan; Mohammad A.
Khomees - Al-Isra'a Private University, Jordan; Ashraf S. Mahmoud -
King Fahd University of Petroleum and Minerals, Saudi Arabia

A New Class of Services for Mobile Devices using Bluetooth Connectivity

Zahy Abou-Atme, Nabeel Sulieman, Leila El-Aawar, Zaher Dawy -
American University of Beirut, Lebanon

Congestion Avoidance Mechanism for Optical Label Switched Networks: A Dynamic QoS-based Approach

Yassine Khelifi, Noureddine Boudriga - University of November 7th at
Carthage, Tunisia; Mohammad S. Obaidat - Monmouth University,
NJ, USA

On Secure Consensus Information Fusion over Sensor Networks

Mahdi Kefayati, Mohammad S. Talebi, Hamid R. Rabiee, Babak H.
Khalaj - Sharif University of Technology, Iran

Session 5C, Room Aqiq**SS1-Software and Applications I**

Session Chair: *Narayan C. Debnath*
Winona State University, USA

Formal Design of a Parameterized Synchronization Component for Asynchronous Communication Streams

Walter Dosch - University of Lübeck, Lübeck, Germany

HAODV: a New Routing Protocol to Support Interoperability in Heterogeneous MANET

Haidar Safa, Hassan Artail, Marcel Karam, Hala Ollaic, Rasha
Abdallah - American University of Beirut, Lebanon

Defining OCL constraints for the Proxy Design Pattern Profile

N.C. Debnath - Winona State University, USA; A.Garis, D.Riesco,
G.Montejano - Universidad Nacional de San Luis, Argentina

Session 5D, Room Kahrman**T9-DSP/Image Processing/Pattern Recognition/Multimedia II**

Session Chair: *Muhammad Sarfraz*
King Fahd University of Petroleum & Minerals, Saudi Arabia

Content-based Image Retrieval using Multiple Shape Descriptors

M.Sarfraz, A.Ridha - King Fahd University of Petroleum and
Minerals, Saudi Arabia

An effective model of stressing in an Arabic Text To Speech System

Zouhir Zemirli, Salima Khabet, M'hamed Mosteghanem - National
Computer Science Institute, Algeria

Off-Line Signature Verification of Bank Cheque Having Different Background Colors

Javed Ahmed Mahar - Shah Abdul Latif University, Pakistan;
Mohammad Khalid Khan - PAF-Karachi Institute of Economic &
Technology, Pakistan; Mumtaz Hussain Mahar - Shah Abdul Latif
University, Pakistan

A Hierarchical Face Identification System Based on Facial Components

Mehrtash T. Harandi, Majid Nili Ahmadabadi, Babak N. Araabi -
University of Tehran, Iran

16:30 – 18:00

Session 6A, Room Almazz**T10-Soft Computing**

Session Chair: *Ahmed Dalal'ah*
Jordan University of Science and Technology, Jordan

Neural Network Examination of Seismic Design Values in the Building Code of Taiwan

Tienfuan Kerh - National Pingtung University of Science and
Technology, Taiwan; J.S. Lai - National Pingtung University of
Science and Technology, Taiwan; D.Gunaratnam, R.Saunders -
University of Sydney, Australia

A Study of ECG Characteristics by Using Wavelet and Neural Networks

Man Sun Kim, HyungJeong Yang - Chonnam National University,
Korea

Diesel Engine Indicated Torque Estimation Based on Artificial Neural Networks

Yahya H. Zweirim - Mu'tah University, Jordan; Lakmal D.
Seneviratne - King's College London, UK

Session 6B, Room Aladdin**T2-Networks and Telecommunications VI**

Session Chair: *Yaw-Chung Chen*
National Chiao Tung University Hsinchu, Taiwan

Wireless Sensor Networks: Architectures, Protocols, Applications, and A New Management System Directions

Yazeed Al-Obasiat, Robin Braun - University of Technology,
Australia; Omar Al-Hujran - University of Wollongong

New Scheduling Architecture for IEEE 802.16 Wireless Metropolitan Area Network

Haidar Safa, Hassan Artail, Marcel Karam, Rawan Soudah, Samar
Khayat - American University of Beirut, Lebanon

Integration of Technologies for Smart Home Application

Saeed O. Al Mehairi, Hassan Barada, Mahmoud Al Qutayri - Etisalat University College, Sharjah, UAE

Using Modified Conditional Second-Order Statistics in Blind Source Separation in Noisy Environment

M.R. Zoghi, M.H. Kahaei - Iran University of Science and Technology, Iran

Session 6C, Room Aqiq**SS1-Software and Applications II**

Session Chair: *Narayan C. Debnath*
Winona State University, USA

Benchmarking XML-Schema Matching Algorithms for Improving Automated Tuning

Mohamed Boukhebouze - National Institute of Applied Sciences of Lyon, France; Rami Rifaieh - San Diego Supercomputer Center-University of California San Diego, USA; Nabila Benharkat, Youssef Amghar - National Institute of Applied Sciences of Lyon, France

An Abstract Workflow-Based Framework for Testing Composed Web Services

Marcel Karam, Haidar Safa, Hassan Artail - American University of Beirut, Lebanon

E-government Services Offerings Evaluation Using Continuous Logic

Narayan Debnath - Winona State University; Aristides Dasso, Ana Funes, Roberto Uzal - Universidad Nacional de San Luis, Argentina; José Paganini - Universidad Nacional de Jujuy, Argentina

Determinants of E-Government Adoption and Diffusion in Jordan

Omar Alhujran, Akemi Takeoka Chatfield - University of Wollongong, Australia

Session 6D, Room Kahrman**T9-DSP/Image Processing/Pattern Recognition/Multimedia III**

Session Chair: *Ahmad Sharieh*
University of Jordan, Jordan

Incorporating Knowledge into Unsupervised Model-Based Clustering for Satellite Images

Bilal Al Momani, Sally McClean, Philip Morrow - University of Ulster, Northern Ireland, UK

License Processing: Recognizing Characters in License Plates

Hasan R. Obeid, Rached N. Zantout - Hariri Canadian University, Lebanon

Segmentation of Printed Farsi/Arabic Words

A. Broumandnia - Islamic Azad University, Iran; J. Shanbehzadeh - Tarbiat Moalem University, Iran; M. Nouran - Tehran University, Iran

A novel algorithm to fast mode decision with consideration about video texture in H.264

Liquan Shen, Zhi Liu, Zhaoyang Zhang, Guozhong Wang - Ministry of Education, China

Wednesday, May 16, 2007**11:00 – 13:00****Session 7A, Room Almass****T8-Performance Evaluation I**

Session Chair: *Ayman Issa*
Philadelphia University, Jordan

Loss rates bounds in IP buffers by Markov chains aggregations

Hind Castel - GET/INT/SAMOVAR, France; Lynda Mokdad - Univ. Paris Dauphine, France; Nihal Pekergin - Université Paris 1, France

Performance Evaluation and Analytical Modeling of a Novel Dynamic Call Admission Control Scheme for 3G and Beyond Cellular Wireless Networks

Salman A. AlQahtani, Ashraf S. Mahmoud, Ahed M. Al-Shanyour - King Fahd University of Petroleum & Minerals, Saudi Arabia

Performance Evaluation of an Ultra-Fast Pipeline Scheduler for Next-Generation Networks

M.T. Anan, G. M. Chaudhry - University of Missouri-Kansas City, USA; J. Qaddour - Illinois State University, USA

A QoS Adaptive Multi-path Reinforcement Learning Routing Algorithm for MANET

Abdelhamid Mellouk, Saïda Ziane - University of Paris XII-Val de Marne, France

Session 7B, Room Aladdin**T12-Algorithms and Bioinformatics, and e-Learning**

Session Chair: *Issa Shehabat*
Philadelphia University, Jordan

WordNet based Cross-Language Text Categorization

Bentaallah Mohamed Amine, Malki Mimoun - EEDIS Laboratory, Algeria

An Educational Asynchronous Learning Environment

Amar Balla - National Institute of Computer Science, Algeria

Exploiting Model of Personality and Emotion of Learning Companion Agent

Taihua Li, Peng Yue, Yuhui Qiu - Southwest University, China; Guoxiang Zhong - Chongqing Education College, China

HELP: A Recommender System to Locate Expertise in Organizational Memories

Esma Aïmeur, Flavien Serge Mani Onana, Anita Saleman - University of Montreal, Canada

Developing Quality Games-based e-Learning Systems

Katerina Papanikolaou, Stephanos Mavromoustakos - Cyprus College, Cyprus

Session 7C, Room Aqiq**T6-Geographical Information Systems/ Global Navigation/ Satellite Systems (GIS/GNSS)**

Session Chair: *Balqies Sadoun, and Omar Al-Bayari*
Al-Balqa' Applied University, Jordan

Three Dimensional (3D) GIS Modeling for High Buildings and Applications

Balqies Sadoun, Nidal Al-Hanbali - Al-Balqa' Applied University, Jordan

LBS and GIS Technology Combination and Applications

Balqies Sadoun, Omar Al-Bayari - Al-Balqa' Applied University, Jordan

3D GIS Modeling of BAU: Planning Prospective and Implementation Aspects

Nidal Al-Hanbali, Balqies Sadoun - Al-Balqa' Applied University, Jordan

Software Defined Radios: A Software GPS Receiver Example

Mohammad S. Sharawi - Philadelphia University, Jordan; Oleksiy V. Korniyenko - Oakland University, USA

Session 7D, Room Kahrman**T9-DSP/Image Processing/Pattern Recognition/Multimedia IV**

Session Chair: *Faruq Al-Omari*
Yarmouk University, Jordan

A Superior Low Complexity Rate Control Algorithm

Alireza Aminlou, Maryam Homayouni, M.H Neishaburi, Siamak Mohammadi - University of Tehran, Iran

Multiple Sclerosis Diagnosis Based on Analysis of Subbands of 2-d Wavelet Transform Applied on MR-images

Meysan Torabi - Sharif University of Technology, Iran; Hassan Moradzadeh - Iran Science & Technology University, Iran; Reza Vaziri, Reza Dehestani Ardekani, Emad Fatemizadeh - Sharif University of Technology, Iran

Video nature considerations for multi-frame selection algorithm in H.264

Liquan Shen, Zhi Liu, Zhaoyang Zhang, Guozhong Wang - Ministry of Education, China

MRI Fuzzy Segmentation of Brain Tissue Using IFCM Algorithm with Genetic Algorithm Optimization

Youness Aliyari Ghassabeh, Nosratallah Forghani, Mohamad Forouzanfar, Mohammad Teshnehlab - Toosi University of Technology, Iran

14:30 – 16:00

Session 8A, Room Almass**T8-Performance Evaluation II**

Session Chair: *Hany H. Ammar*
West Virginia University, Morgantown, USA

Mahak: A Test Collection for Evaluation of Farsi Information Retrieval Systems

Kyumars Sheykh Esmaili, Hassan Abolhassani, Mahmood Neshati, Ehsan Behranghi, Asreen Rostami, Mojtaba Mohammadi Nasiri - Sharif University of Technology, Iran

A Controlled Experiment to Investigate the Effect of 'Process Patterns' on the Quality of Requirement Analysis

Ahmad Estabraghy, Darren Dalcher - Middlesex University, UK

The Effect of Routing-Update Time on Network's Performability

M.Shaad Zolpirani, M.-M. Bidmeshki, S. G. Miremadi - Sharif University of Technology, Iran

Bayesian Networks for Modelling HIV Drug Resistance Dynamics

A. Al Mazari, A.Y. Zomaya, M. Charleston, R. J. Garsia - University of Sydney, Australia

Session 8B, Room Aladdin**T11-Security and Information Assurance I**

Session Chair: *Noureddine Boudriga*
University of Carthage, Tunisia

Sensor Activity Scheduling for Efficient WSN-based Tracking

Nejla Essaddi, Mohamed Hamdi, Noureddine Boudriga - Engineering School of Communications (Sup'Com), Tunisia

On Optimal firewall Rule Ordering

El-Sayed M. El-Alfy, Shokri Z. Selim - King Fahd University of Petroleum and Minerals, Saudi Arabia

Seamless Secure Development of Systems: From Modeling to Enforcement of Access Control Policies

Saeed Parsa, Morteza Damanafshan - Iran University of Science and Technology, Iran

Trust-Based User-Role Assignment in Role-Based Access Control

Hassan Takabi, Morteza Amini, Rasool Jalili - Sharif University of Technology, Iran

Session 8C, Room Aqiq**T7-Modelling and Simulation I**

Session Chair: *Sami Habib*
Kuwait University, Kuwait

Modeling the Communication Problem in Wireless Sensor Networks as a Vertex Cover

Maytham Safar, Mohammad Taha, Sami Habib - Kuwait University, Kuwait

AR Model Identification Using Higher Order Statistics

Adnan M. Al-Smadi - University, Al-Mafraq, Jordan

SiMBCN: An Interactive Simulation Tool for Multihop Based Cellular Networks

Sami Arayssi, Marc Akl, Sami Abou Saab, Zaher Dawy - American University of Beirut, Lebanon

Removing the GSC Noise Reduction deficiencies in Reverberant Environments by Proposing Joint AEC-GSC algorithm

Pejman Mowlae, Mahdi Orooji, Mohammad Hossein Kahaei - Iran University of Science and Technology, Iran

Session 8D, Room Kahrman**T9-DSP/Image Processing/Pattern Recognition/Multimedia V**

Session Chair: *Rached Zantout*
Hariri Candian University, Lebanon

Handwritten Farsi/Arabic Word Recognition

A. Broumandnia - Islamic Azad University, Iran; J. Shanbehzadeh - Tarbiat Moalem University, Iran; M. Nourani - Tehran University, Iran

Artificial Visual Cortical Responding Model in Image Semantic Processing

Zhiping Xu, Shiyong Zhang, Yiping Zhong - Fudan University, China

16:30 – 18:00

Session 9A, Room Almass**T4-Database and Data Mining III**

Session Chair: *Bassam Saleh*
Al-Balqa' Applied University, Jordan

Quine-McCluskey Classification

Javad Safaei, Hamid Beigy - Sharif University of Technology, Iran

XPLC: A Novel Protocol for Concurrency Control in XML Databases

Kamyar Izadi, Fatemeh Asadi, Mostfa S. Haghjoo - Iran University of Science and Technology, Iran

Personalized Web Page Ranking Using Trust and Similarity

Lara Srour, Ayman Kayssi, Ali Chehab - American University of Beirut, Lebanon

Session 9B, Room Aladdin**T11-Security and Information Assurance II**

Session Chair: *Zaher Dawy*
American University of Beirut, Lebanon

Structuring a Multi-violation Detectors Database for an Efficient Intrusion Detection

Amel Meddeb-Makhlouf, Mohamed Hamdi, Nouredine Boudriga -
 Engineering School of Communications (SupCom), Tunisia

SmartSSL: Efficient Policy-Based Web Security

Camille Gaspard, Batoul Haidar, Ayman Kayssi, Ali Chehab -
 American University of Beirut, Lebanon

How to Counter Control Flow Tampering Attacks

Mohsen Sharifi, Mohammad Zoroufi, Alireza Saberi - Iran University
 of Science & Technology, Iran

Session 9C, Room Aqiq**T7-Modelling and Simulation II**

Session Chair: *Abdel-Fatah Tamimi*
Al-Zaytoonah University, Jordan

Artificial Neural Networks vs Linear Regression in a Fluid Mechanics and Chemical Modelling Problem: Elimination of Hydrogen Sulphide in a lab-scale Biofilter

G. Ibarra-Berastegi, A. Elias, R. Arias, A. Barona - University of the
 Basque Country, Spain

Robust Control Design for a Wind Turbine-Induction Generator Unit

Alireza Khosravi, Aliakbar Jalali - Iran University of Science
 & Technology, Iran; Hamed Mojallali - Guilan University, Iran

Modeling and Evaluation of Call Centers with GSPN Models

Maryam Fanaeepour, Leila Naghavian, Mohammad Abdollahi
 Azgomi - Iran University of Science and Technology, Iran

Session 9D, Room Kahrman**SS2-Special Session on Processor Allocation and Scheduling in High-Performance Computing Systems: Design and Performance**

Session Chair: *Ibrahiem El Emary*
Amman University, Jordan

A Performance Comparison of Contiguous Allocation Placement Schemes for 2D Mesh-connected Multicomputers

Ismail M. Ababneh - Al al-Bayt University, Jordan

An Efficient Processor Allocation Strategy that Maintains a High Degree of Contiguity among Processors in 2D Mesh Connected Multicomputers

S.Bani-Mohammad, M.Ould-Khaoua - Glasgow University, UK;
 I.Ababneh - Al al-Bayt University, Jordan; Lewis M. Mackenzie -
 Glasgow University, UK

Applications of Heterogeneous Computing in Hardware/Software Co-Scheduling

Proshanta Saha, Tarek El-Ghazawi - The George Washington
 University, USA