



15th ACS/IEEE International Conference on Computer Systems and Applications AICCSA 2018

October 28th to November 1st, 2018. Aqaba, Jordan.

Welcome Message

On behalf of the organizing committee, we welcome you to the 15th International Conference on Computer Systems and Applications (AICCSA 2018), Aqaba, Jordan.

AICCSA 2018 Conference, in collaboration with IEEE, continues its mission of covering all contemporary areas in computer systems and applications, and providing the latest results on theory, design, analysis, implementation, and application in these important and rapidly changing domains. Indeed, this edition addresses nine areas and the technical program presents high-quality papers in: (1) Knowledge Engineering, (2) Artificial Intelligence, (3) Linguistics, (4) Sensors and Networks, (5) Databases, Information Systems and Security, (6) Image processing and Computer Vision, (7) Computing, (8) Data Science, (9) Software Engineering.

The 5-days program of the conference exhibits exciting Main Conference Room Arabah and workshop sessions. A posters presentation session and a poster judging session are also planned for Monday afternoon. Young researchers are featured with a full day PhD forum on Sunday 28 October 2018. A number of networking and social events are also organized all along the conference. Apart from daily lunches, a Gala dinner is organized on Tuesday evening and a travel to the marvelous Petra is planned for Wednesday 30 October 2018, followed by a dinner.

The breadth of the prominence of approaches in these areas is underlined by the topics of the seven distinguished keynote speakers: Prof. Genoveva Vargas Solar, CNRS French Council of Scientific Research, France; Prof. Helen Karatza, Aristotle University of Thessaloniki, Greece; Prof. Abdulmotaleb El Saddik, University of Ottawa, Canada; Dr. Abdella Battou, NIST, USA; Prof. Ingmar Weber, QCRI, Qatar; Prof. Khaled Salah, Khalifa University, UAE; and Dr. Mutas M. Al-Debei, ORACLE Middle East; Also, five tutorials are organized through the conference days and to be presented by number of pioneering researchers.

We hope that you will enjoy your stay in Aqaba.

Mahdi Zargayouna on behalf of the TPC chairs

Hedi Karray on behalf of the General chairs

Muder Almiani, on behalf of the Organization chairs



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AICCSA 2018 Tracks

- **Track 1:** Advances in Knowledge Engineering (chairs: Haifa Zargayouna, Mounira Harzallah & Mustafa Jarrar)
- **Track 2:** Advances in Artificial Intelligence (chairs: Aline Paes & Flavia Bernardini)
- **Track 3:** Advances in Linguistics (chairs: Ali Jaoua, Nadi Tomeh & Mahmoud Al-Ayyoub)
- **Tracks 4 & 5:** Advances in Sensors and Networks (chairs: Khalil Drira, Nouha Baccour & Firas A. Al Balas)
- **Track 6:** Advances in Databases, Information Systems and Security (chairs: Mohammad Al Smirat & Mohammed Al-Saleh)
- **Track 7:** Advances in Image processing and Computer Vision (chairs: Nadjia Benblidia, Débora C M Saade & Hussein Al-Zoubi)
- **Track 8:** Advances in Computing (chairs: Khoulood Boukadi & Ayman Al-dmour)
- **Track 9:** Advances in Data Science (chairs: Latifa Oukhellou, Yehia Taher & Ahmad Alaiad)
- **Track 10:** Advances in Software Engineering (chairs: Leonardo Murta, Abdelhak-Djamel Seriai & Lu'ay M. Alawneh)

AICCSA 2018 Workshops & Special sessions

- **DSC'2018:** The Fourth International Workshop for Data Science and Computing (chairs: Nadjia Benblidia & Narhimène Boustia)
- **MCA'2018:** The Second International symposium on Multimedia Computing and Applications (chairs: Débora C M Saade, Hussein Al-Zoubi & Mohamad Alsmirat)
- **SC-ALP'2018:** The Second International Symposium on Social Computing and Arabic Language Processing (chairs: Mustafa Jarrar, Ashraf Elnagar & Mahmoud Al-Ayyoub)
- **HOPE'2018:** The First International Workshop on Health Informatics: Patient-Centred Solutions and Educational Approaches in the Digital Health Era (chairs: Adel Taweel, Yousef Kader, Thomas Lux & Elyes Lamine)
- **ACCO'2018:** The Second Workshop on Automation of Cloud Configuration and Operations (chairs: Abdella Battou, Robert Bohn & Cihan Tunc)



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DETAILED PROGRAM

Sunday 28-Oct -2018	
08:00-17:00	Onsite registration
09:00-09:30	Opening & Welcome
09:30-10:30	<p>Keynote speaker: Prof. Ingmar Weber What Online Advertising Data Reveals about People and Societies Chair: Prof. Elhadj Ben Khelifa</p> <p>Room Dhana</p>
10:30-11:00	Coffee break
11:00-12:30	<p>PhD Forum Chair: Prof. Ali Koglu</p> <p>Room Yaqout</p>
	<p>Chair: Prof. Nadia Kabachi</p> <ul style="list-style-type: none"> Rim Laatar, Chafik Aloulou and Lamia Hadrich Belguith. Word sense disambiguation using Skip gram model to create a Historical Dictionary for Arabic Samer Chehade, Nada Matta, Jean-Baptiste Pothin and Remi Cogranne. Data Interpretation Support in Rescue Operations: Application for French Firefighters Muhammad Shehzad Hanif, Muhammad Bilal, Khalid Munawar and Abdullah Saeed Balamesh. Implementation of an Embedded Testbed for Indoor SLAM Sicong Shao, Cihan Tunc, Amany Al-Shawi and Salim Hariri. Autonomic Author Identification in Internet Relay Chat (IRC) Ibtissem Brahmi, Fadoua Mhiri and Faouzi Zarai. Power Control Method based on Users and Applications QoS Priorities (UAQP) in Femtocell Network Ahlem Masmoudi, Souhir Feki, Kais Mnif and Faouzi Zarai. Efficient Radio Resource Management for D2D-based LTE-V2X communications
12:30-13:30	Lunch
13:30-14:30	<p>Keynote Speaker: Prof. Khaled Salah Blockchain: a New Disruptive Force Chair: Prof. Chirine Ghedira</p> <p>Room Dhana</p>
14:30-17:00	<p>PhD Forum Chair: Prof. Ali Koglu</p> <p>Room Yaqout</p>



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	<p>AICCSA'2018 Main Conference Room Arabah</p>	<p>Chairs: Prof. Khalil Drira & Dr. Sami Yangui</p> <ul style="list-style-type: none"> • Raja Ayed . Social Networks Analysis in a Business Intelligence Context • Sana Rekik, Nouha Baccour, Mohamed Jmaiel and Khalil Drira. Experiencing low power wireless links in distribution smart grid environments • Hussein El Ghor, Maryline Chetto and Rola Osta. Multiprocessor Real-Time Scheduling for WirelessSensors Powered by Renewable Energy Sources • Bassma Jioudi, Wafaa Dachry, Fouad Moutaouakkil and Hicham Medromi. Literature Review of WSN MAC protocols in Smart parking • Nouha Khyari, Sofiane Khalfallah, Yosra Barouni and Jaleleddine Ben Hadj Slama. Comparative Performance analysis of cooperative outdoor PLC • Javier Rocher, Lorena Parra, Jaime Lloret and Jesus Mengual. An inductive sensor for water level monitoring in tubes for water grids • Adriel Araújo, Aura Conci, Roger Resmini, Maira Beatriz Moran and Rafael Heitor Correia de Melo. On Efficient Computation of Texture Descriptors from Sum and Difference Histograms Considering the Scales of Patterns • Zakia Kezzoula, Soumia Faouci and Djamel Gaceb. Neural approach for the magnification of low-resolution document images
<p>14:30-17:00</p>	<p>Workshop @AICCSA'2018 Room Fayrouz</p>	<p>Chairs: Dr. Cihan Tunc & Prof. Dr. Abdella Battou</p> <ul style="list-style-type: none"> • Ferdaous kamoun-Abid, Amel Meddeb-Makhlouf and Faouzi Zarai. Distributed firewall and controller for Mobile Cloud Computing • Wided Ben Daoud, Amel Meddeb-Makhlouf and Faouzi Zarai. A Trust-based Access Control Scheme for e-Health Cloud • Farah Fargo and Olivier Franza. Autonomic Secure HPC Architecture Against Power Attacks • Hana Al-Theiabat, Mahmoud Al-Ayyoub, Mohammad Alsmirat and Monther Aldwairi. A Deep Learning Approach for Amazon EC2 Spot Price Prediction • Abdul Razaque, Yuxin Li, Qianqian Liu, Meer Jaro Khan, Ahmad Doulat, Muder Almiani and Ahmad Alflahat. Enhanced Risk Minimization Framework for Cloud Computing Environment • Mohamed Hamroun, Sonia Lajmi, Henri Nicolas and Ikram Amous. An Interactive Video Browsing With VINAS System • Jesus Pacheco, Cihan Tunc and Salim Hariri. Security Framework for IoT Cloud Services • Pratik Satam, Shalaka Satam and Salim Hariri. Bluetooth Intrusion Detection System (BIDS) • Kawthar yasmine Zergat, sid ahmed Selouani, Abderrahmane Amrouche and Mohamed Debyeche. Improved Speaker Recognition over VoIP using Auditory Features • Siham Boulaknadel, Yassine Tazouti and Youssef Fakhri. Towards a Serious Game for Amazighe Language Learning
<p>18:00-20:00</p>	<p>Welcome Reception-Finger buffet</p>	



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Monday 29-Oct -2018	
08:00-17:00	Onsite registration
09:00-10:30	<p>Keynote speaker: Prof. Helen Karatza Scheduling Data-Intensive Applications in the Cloud Trends and Challenges</p> <p>Keynote speaker: Dr. Abdella Battou Named Data Networking (NDN) and Fog Computing</p> <p>Chair: Prof. Salim Hariri</p> <p style="text-align: center;">Room Dhana</p>
10:30-11:00	Coffee break
11:00-12:30	<p style="text-align: center;">Tutorial: Piotech By Mr. Rand Hashem</p> <p style="text-align: center;">Room Yaqout</p>
	<p>Chair: Prof. Aura Conci</p> <ul style="list-style-type: none"> • Wided Selmi, Hajer Kammoun, and Ikram Amous. MeSH-based Semantic Query Expansion Systems • Agnieszka Zbrzezny and Andrzej Zbrzezny. SAT-based BMC approach to Verifying Real-Time Properties of Multi-Agent Systems • Khaled Salah, Maha Kadadha, Randa Almadhoun, Maya Alhemeiri, Maryam Alshehhi. A User Authentication Scheme of IoT Devices using Blockchain-enabled Fog Nodes • Lubaba Tamiza, Ghassan Shahin and Radwan Tahboub. Intelligent Model for Suitable University Specialization Selection in Palestine • Samar Al-Saqqa, Nadim Obeid and Arafat Awajan. Sentiment Analysis for Arabic Text Using Ensemble Learning • Amel Borgi and Rim Kalai. Attributes regrouping in Fuzzy Rule Based Classification
	<p style="text-align: center;">Chairs : Prof. Adel Al-Taweel & Dr. Elyes Lamine</p>
	<p>Workshop @AICCSA'2018</p> <p style="text-align: center;">Room Fayrouz</p> <ul style="list-style-type: none"> • Yousef Khader, Hussein Jabareen, Sukaina Alzyoud, Samah Awad, Niveen Abu Rumeileh, Nemeah Manasrah, Rula Mudallal and Adel Taweel. Perception and acceptance of health informatics learning among health-related students in Jordan and Palestine • Bernhard Breil, Lisanne Kremer, Adel Taweel and Thomas Lux. A comparative literature analysis of the Health Informatics curricula • Mohanad Jabari, Bilal Amro, Hussein Jabareen, Yousef Khader and Adel Taweel. Development of A Case Study-Based Approach for Effective Understanding and Use of EHRs in Undergraduate Multidisciplinary Education Abdulrahman Abu Elkhail and Uthman Baroudi. Real-Time Healthcare Monitoring System Using Smartphones • Mariame Nassit and Hassan Berbia. Structures Simulation of Curved Sensor based on PVDF for Fetal Heart Rate Monitoring • Syed Misbahuddin, Abdul Rahman Al-Ahdal and Muhammad Arshad Malik. Low-Cost MPI Cluster Based Distributed in-Ward Patients Monitoring System



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12:30-13:30	Lunch	
	<p>Tutorial: Virtualized Network Functions Description, Publication and Discovery: Content Delivery Networks as Case Study By Prof. Khalil Drira & Dr. Sami Yangui Room Yaout</p>	
13:30-15:30	Short presentations Room Dhana	<p>Chairs : Hedi Karray & Mahdi Zargayouna</p> <ol style="list-style-type: none"> Otman Manad, Anna Pappa and Gilles Bernard. A Cleaning Algorithm for Noiseless Opinion Mining Corpus Construction Rami Mohammad. A Neural Network based Digital Forensics Classification Sarah Abdallah, Ayman Kayssi, Imad H. Elhajj and Ali Chehab. Adaptive Optimization for Hybrid Network Control Planes Aljia Bouzidi, Nahla Haddar, Mounira Ben Abdallah and Kais Haddar. Alignment of business processes and requirements through model integration Patricia Della Méa Plentz, Edson De Pieri and Luciana Rech. An Overview on Real-Time Constraints for Ambient Intelligence (Aml) Rasim Caner Çalık and M. Fatih Demirci. Cifar-10 Image Classification with Convolutional Neural Networks For Embedded Systems Aboubakr Aqle, Dena Al-Thani and Ali Jaoua. Conceptual Interactive Search Engine Interface for Visually Impaired Web Users Seongwu Kim, Seyoung Kim and Kwang Ryel Ryu. Deep Learning for Defect Prediction in Injection Molding Belal Amro and Mohanad Jabari. Design and Development of Case Studies in Security and Privacy for Health Informatics Education Shereen Ismail, Amal Ahmad, Mohammed Awad and Mohammad Abdul Jawad. Evaluating Cache Power Dissipation Across Different Process Technologies Nadia Boufares, Yosra Ben Saied and Leila Azouz Saidane. Improved Distributed Virtual Forces Algorithm for 3D Terrains Coverage in Mobile Wireless sensor Networks Zakia Berber and Kameche Samir. Influence of Loop Bandwidth Parameter on Integer PLL Frequency Synthesizer Performances in 80 GHz mm-Wave 5G Frequency Band Muhammed Al-Muhammed. Likelihood-Based Random Search Technique for Solving Unconstrained Optimization Problems Yekta Turk and Ali Akman. Management of Low Powered Personal Area Networks using Compression in SNMPv3 Amjad Aldweesh, Maher Alharby and Aad van Moorsel. Performance Benchmarking For Ethereum Opcodes Mohammad Ababneh, Duminda Wijesekera, Paulo Costa and Malik Qasaimh. Performance of Generating Dialogs from Ontology and Context Sana Boujnah, Sami Jaballah, Anouar Ben Khalifa and Mohamed Lassad Ammari. Person's Identification with Partial Fingerprint Based on a Redefinition of Minutiae Features Salah Gontara, Amine Boufaied and Ouajdi Korbaa. Routing the PI-Containers in the Physical Internet using the PI-BGP Protocol Faten Mrabet. SAC-tool: a tool for scheduling analysis and correction of multiprocessor Real Time Systems Ana Halabi, Juan Vergara and Hedi Karray. Semantic Intelligence in a Seaport Context Safaa Gamal, Mohamed Rihan and Adel Zaghoul. Two-Tier Power Allocation for Non-Orthogonal Multiple Access Based Cognitive Radio Networks Saad Aldoihi and Omar Hammami. User Experience of CT Scan: A Reflection of Usability and Exertions Sarab M. Hameed and Layla M. Mohammed Ali. Utilizing Hopfield Neural Network for Pseudo-Random Number Generator Imen Baklouti, Majdi Mansouri, Ahmed Ben Hamida, Mohamed Nounou and Hazem Nounou. Max-Double Adaptive EWMA for Fault Detection of Wastewater Treatment Plants Rola El Osta, Maryline Chetto and Hussein El Ghor. An optimal approach for minimizing aperiodic response times in Real-time Energy Harvesting Systems



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		<p>26. Walaa Al-Sarayrah, Ahmad Alaiad and Yaser Jararweh. Social Networking Sites and Deaf and Hard of Hearing People in Jordan : Characteristics and Preferences Mohamed Anouar Bencheikh and Samir Boukhenous. A Wearable Preventive Insole for Diabetic Patients</p>
	<p>AICCSA'2018 Main Conference Room Arabah</p>	<p>Chair: Prof. Chirine Ghedira</p> <ul style="list-style-type: none"> • Hussein Mhanna, Sébastien Soudrais and Patrick Leserf. Generation of Context-based Usage Scenario Test from UML Sequence Diagrams • Majed Alenizi and Hussein Abu Masnour. A new Intelligent Hybrid Feature Selection Method • Pascal Bissig, Gino Brunner, Florian Gubler, Roger Wattenhofer and Andreas Zingg. Towards Measuring Real-World Performance of Android Devices • Jamila Oukharjane, Fadwa Yahya, Khoulood Boukadi and Hanène Ben Abdallah. Towards an approach for the evaluation of the quality of business process models • Mohamed Nassar, Qutaibah Malluhi and Tanveer Khan. A Scheme for Three-way Secure and Verifiable E-Voting • Maha Fraj, Mohamed Aymen Ben Haj kacem and Nadia Essoussi. A novel tweets clustering method using word embeddings • Ebaa Fayyouni and Omar Nofal. Applying Genetic Algorithms on Multi-level Micro-Aggregation Techniques for Secure Statistical Databases • Imane Haidar, Ali Haidar and Ramzi Haraty. Axes-Based Encryption Key • Abdelhak Belhi, Abdelaziz Bouras and Sebti Fofou. Towards a hierarchical multitask classification framework for cultural heritage
	<p>Workshop @AICCSA'2018 Room Fayrouz</p>	<p>Chairs : Prof. Yousef Khader</p> <ul style="list-style-type: none"> • Abdallah Karakra, Franck Fontanili, Elyes Lamine, Jacques Lamothe and Adel Taweel. Pervasive computing integrated discrete event simulation for a hospital digital twin • Sina Namaki Araghi, Franck Fontanili, Elyes Lamine, Nicolas Salatge, Julien Lesbegueries, Sebastien Rebiere Pouyade, Ludovic Tancerel and Frederick Benaben. A conceptual framework to support discovering of patients' pathways as operational process charts • Qanita Bani Baker, Toqa Abu Zaitoun, Sajda Banat, Eman Eaydat and Mohammad Alsmirat. Automated Detection of Benign and Malignant in Breast Histopathology Images • Roger Resmini, Aura Conci, Lincoln Faria da Silva and Maira Moran. Number of Texture Unit as Feature to Breast's Disease Classification from Thermal Images • Sami Elzeiny and Marwa Qaraqe. Machine Learning Approaches to Automatic Stress Detection: A Review
<p>15:30-16:00</p>	<p>Coffee break</p>	
<p>16:00-17:00</p>	<p>Posters Display Session (Best poster Judging) Chairs: Dr. Fatma Abdelhedi and Prof. Nadia Kabachi Room Dhana</p>	



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Tuesday 30-Oct -2018	
08:00-17:00	Onsite registration
09:00-10:00	Keynote speaker: Dr. Mutaz M. Al-Debei The Next Big Things: Big Data & Analytics, AI/ML, and Autonomous DB/DW Chair: Dr. Muder Alm'ani Room Dhana
10:00-10:30	Coffee break
AICCSA'2018 Main Conference Room Arabah	Chair: Prof. Ali Jaoua
	<ul style="list-style-type: none"> • Randa Ammar and Yassine Benayed. Speech processing for early Alzheimer Disease diagnosis: Machine learning based approach • Marwan Torki, Mahmoud Abdel-Latif, Mohamed Samir, Shady Abdel-Aziz, Mohamed Heeba and Ahmed Elmasry. A supervised learning approach using the combination of semantic and lexical features for arabic community question answering • Ashraf Elnagar, Rotana Ismail, Bahja Alattas and Alia Alfalasi. Automatic Classification of Reciters of Quranic Audio Clips • Djamel Hadj Mohammed and Nacéra Bensaou. Automatic Extraction of Equations in Medieval Arabic Algebra • Eman Omar, Paola Flocchini and Nicola Santoro. Energy Restoration in a Linear Sensor Network • Yasmine Serdouk, Hassiba Nemmour and Youcef Chibani. New Histogram-based Descriptor for Off-Line Handwritten Signature Verification
Workshop @AICCSA'2018 Room Fayrouz	Chairs : Dr. Cihan Tunc & Prof. Salim Hariri
	<ul style="list-style-type: none"> • Mohannad Abuzneid and Ausif Mahmood. Face Recognition Framework Based on Correlated Images and Back-Propagation Neural Network • Kawthar yasmine Zergat, sid ahmed Selouani, Abderrahmane Amrouche and Mohamed Debyeche. Improved Speaker Recognition over VoIP using Auditory Features • Furkan Aydin, H. Fatih Ugurdag, Vecdi Emre Levent, Aydin Emre Güzel, N. Fajar R. Annafianto, M. Akif Özkan, Toygar Akgün and Cengiz Erbas. Rapid Design of Real-Time Image Fusion FPGA Using HLS and Other Techniques • Yousef Shatnawi, Mohammad Alsmirat, Mahmoud Al-Ayyoub and Monther Aldwairi. The Impact of the Number of Eigen-Faces on the Face Recognition Accuracy using Different Distance Measures • Afef Abidi, Ibtihel Noura and Mohamed Hédi Bedoui. Parallel Implementation on GPU for EEG Artifact Rejection by Combining FastICA and TQWT • Mustafa Daraghmeh, Suhib Bani Melhem and Anjali Agarwal. Regression-Based Dynamic Provisioning and Monitoring for Responsive Resources in Cloud Infrastructure Networks
Tutorial: Oracle By Dr. Mutaz M. Al-Debei Room Yaqout	



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10:30-12:30	OASIS Seminar Room Masa
12:30-13:30	Lunch
13:30-14:30	Keynote Speaker: Prof. Abdulmotaleb El Saddik Digital Twin: The convergence of Multimedia Technologies Chair: Dr. Mahdi Zargayouna Room Dhana
14:30-15:30	Panel Discussion Chair: Prof. Elhadj Ben Khelifa
15:30-16:00	Coffee break
19:30-23:00	GALA DINNER



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Wednesday 31-Oct-2018	
08:30-09:00	Onsite registration
09:30-17:00	Networking & Social activity (PETRA) Hosted by Hussein Ben Talal University
18:00-20:00	DINNER Offered by AL Hussein Ben Talal University at PETRA



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Thursday 01-nov-2018	
08:00 -12:30	Onsite registration
09:00-11:00	Tutorial: From Row data to Intelligent Decision Making in Real Word applications By Prof. Salima Hassas, Prof. Nadia Kabachi & Prof. Chirine Ghedira Room Yaqout
	<p>AICCSA'2018 Main Conference Room Arabah</p> <p>Chair: Dr. Fatma Abdelhedi</p> <ul style="list-style-type: none"> • Noureddine Aouaa, Rachid Gherbi, Hayat Hadjar and Abdelkrim Meziane. Visual Data Mining by Virtual Reality for Protein-Protein Interaction Networks • Mohamed Moncef Ben Khelifa, Hachem Amine Lamti and Joel Grillasca. A gaze/SSVEP based wheelchair command • Raoua Khwildi and Azza Ouled Zaid. Color Based HDR Image Retrieval Using HSV Histogram and Color Moments • Kahina Amara, Naeem Ramzan, Nouara Achour, Mahmoud Belhocine, Cherif Larbas and Nadia Zenati. Emotion Recognition via Facial Expressions • Wilian Fiirst, Aura Conci, Maira Beatriz Hernandez Moran, Charbel Damião, Debora Christina Muchaluat Saade, Adriel Santos Araújo, Rubens Cruz Filho, José Ramon Gonzalez, Giovanna Lima and Roger Resmini. Monomodal image registration by tensor analysis: going beyond the brightness constancy assumption • Nilangshu Bidyanta and Ali Akoglu. Real-Time GPU Based Video Segmentation with Depth Information • Yingshen Zhao, Philippe Fillatreau, Mohamed Hedi Karray and Bernard Archimede. An ontology-based approach towards coupling task and path planning for the simulation of manipulation tasks
	<p>Workshop @AICCSA'2018 Room Fayrouz</p> <p>Chairs: Dr. Mahmoud Al-Ayyoub & Dr. Mohammad Al-Smirat</p> <ul style="list-style-type: none"> • Dhekra Rezgui, Hend Bouziri, Wassila Aggoune-Mtalaa and Jouhaina Chaouachi. A Hybrid Evolutionary Algorithm for Smart Freight Delivery with Electric Modular Vehicles • Hatem Moumni, Olfa Hamdi and Sana Ezouaoui. Algorithms and Performance Evaluation for Sparse Matrix Product on Grid'5000 Intel Xeon Processor • Intidhar Bedhief, Meriem Kassar and Taoufik Aguil. From Evaluating to Enabling SDN for the Internet of Things • Chaouki Chemam, Hafed Zarzour, Toufik Sari, Mohammad Al-Smadi and Yaser Jararweh. Trends in linked data-based educational studies: a review of contributions in SSCI journals • Thierry Louge, Mohamed Hedi Karray and Bernard Archimède. Investigating a method for automatic construction and population of ontologies for services: performances and limitations • Rafat Hammad and Mustafa Banikhalaf. A Parallel Approach for Managing XML-based Electronic Medical Records
11:00- 11:30	Coffee break



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11:30- 12:30	<p>Keynote speaker: Prof. Genoveva Vargas Solar Moving forward data centric sciences weaving Artificial Intelligence, Big Data management and HPC Chair: Dr. Hedi Karray</p> <p style="text-align: center;">Room Dhana</p>	
12:30-13:30	Lunch	
13:30-15:00	<p style="text-align: center;">Tutorial : Design and deployments of Wireless Sensor Networks By Prof.Jaime Lloret</p> <p style="text-align: center;">Room Yaqout</p>	
	<p>AICCSA'2018 Main Conference</p> <p>Room Arabah</p>	<p>Chairs: Prof. Elhadj Ben Khelifa & Dr. Mohammad Alsmirat</p> <ul style="list-style-type: none"> • Paulo Marcos Siqueira Bueno, Ferrucio De Franco Rosa, Mario Jino and Rodrigo Bonacin. A Security Testing Process supported by an Ontology Environment: a conceptual proposal • Achref El Amri and Aref Meddeb. Load Sharing techniques for Server Selection in Network Virtualization • Samuel Hess, Pratik Satam, Gregory Ditzler and Salim Hariri. Malicious HTML File Prediction: A Detection and Classification Perspective with Noisy Data • Amani Shatnawi and Stephen Clyde. Modeling Personal Identifiable Information Using First-Order Logic • Yanal Alahmad, Anjali Agarwal and Tariq Daradkeh. High Availability Management for Applications Services in the Cloud Container-Based Platform • Ahamd Sharieh, Afaf Edinat and Shakir Alfarraji. An Enhanced Polyalphabetic Algorithm On VigenereCipher with DNA-Based Cryptography • Mohammad Al-Hammouri, Basem Madani, Moayad Aloqaily, Ismaeel Al Ridhawi and Yaser Jararweh. Scalable Video Streaming for Real-Time Multimedia Applications over DDS Middleware for Future Internet Architecture • Zakia Kezzoula, Soumia Faouci and Djamel Gaceb. Neural approach for the magnification of low-resolution document images
	<p>Workshop @AICCSA'2018</p> <p>Room Fayrouz</p>	<p>Chairs: Prof. Aura Conci & Dr. Sami Yanguì</p> <ul style="list-style-type: none"> • Raja Ayed, Amina Chouigui and Bilel Elayeb. A New Morphological Annotation Tool for Arabic Texts • Renata Martins Gomes and Marcel Baunach. A Model-Based Concept for RTOS Portability • Sandra Sendra, Pablo Romero-Díaz, Jorge Navarro-Ortiz and Jaime Lloret. Smart Infant Incubator based on LoRa Networks • Naima Essadi and Adil Anwar. Language Interface-Oriented Design: A Promising Approach to Coordinate between Heterogeneous DSMLs
15:00-15:30	Coffee Break & Refreshment and Conference Closing	



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Posters

Monday 29-Oct-2018, 16:00-17:00
Open Session-(Judging for Best Poster)

Room Dhana

Chairs: Dr. Nadia Kabachi & Dr. Fatma Abdelhedi



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PhD Forum, October 28 2018

Theme: "How to prepare yourself for transitioning from graduate school life to professional life"

Chair : Prof: Ali Akoglu

Room: Yaqout

Academic Keynote Speaker:

Genoveva vargas Solar (Senior Scientist, French Council of Scientific Research -CNRS, France)

Industry Keynote Speaker:

Abdella Battou (NIST, USA)

Academic Mentors:

- Genoveva vargas Solar (Senior Scientist, French Council of Scientific Research -CNRS, France)
- Chirine Ghedira Guegan (University of Lyon, France),
- Elhadj Benkhelifa (Stafforshire University, UK),
- Salim Hariri (University of Arizona, USA),
- Hedi Karray, (INP-ENIT, University of Toulouse, France)
- Cihan Tunc (University of Arizona, USA)
- Mahmoud Al-Ayyoub (JUST, Jordan)

Industry Mentors:

- Abdella Battou (NIST, USA)
- Mutaz M. Al-Debei (Oracle)

Program

11:00-11:15	Introduction and Welcome
11:15-12:30	Doctoral Symposium Academic Keynote
14:30-15:30	Selected Student Research Talks
15:30-16:00	Doctoral Symposium Industry Keynote
16:00-16:30	Career Mentoring and Breakout Sessions (Preparing for Interviews)
16:30-17:00	Career Mentoring and Breakout Sessions (Preparing for Future Career)



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AICCSA 2018 Keynote Speakers

Keynote 1: Blockchain: a New Disruptive Force



Khaled Salah is a full professor at the Department of Electrical and Computer Engineering, Khalifa University, UAE. He received the B.S. degree in Computer Engineering with a minor in Computer Science from Iowa State University, USA, in 1990, the M.S. degree in Computer Systems Engineering from Illinois Institute of Technology, USA, in 1994, and the Ph.D. degree in Computer Science from the same institution in 2000. He joined Khalifa University in August 2010, and is teaching graduate and undergraduate courses in the areas of cloud computing, computer and network security, computer networks, operating systems, and performance modeling and analysis. Prior to joining Khalifa University, Khaled worked for ten years at the department of Information and Computer Science, King Fahd University of Petroleum and Minerals (KFUPM), KSA. Khaled has over 170 publications and 2 patents, has been giving a number of international keynote speeches, invited talks, tutorials, and research seminars on

the subjects of Blockchain, IoT, Fog and Cloud Computing, and Cybersecurity. Khaled was the recipient of Khalifa University Outstanding Research Award 2014/2015, KFUPM University Excellence in Research Award of 2008/09, and KFUPM Best Research Project Award of 2009/10, and also the recipient of the departmental awards for Distinguished Research and Teaching in prior years. Khaled is a senior member of IEEE, and serves on the Editorial Boards of many WOS-listed journals including IET Communications, IET Networks, Elsevier's JNCA, Wiley's SCN, Wiley's IJNM, J.UCS, and AJSE. Khaled will serve as the Track/Symposium Chair of IEEE Globecom 2018 on Cloud Computing.

Keynote 2: Moving forward data centric sciences weaving Artificial Intelligence, Big Data management and HPC



Genoveva Vargas-Solar (<http://www.vargas-solar.com>) is senior scientist of the French Council of Scientific Research (CNRS) and she is member of the HADAS group of the Informatics Laboratory of Grenoble, France. Since 2008, she is deputy director the Franco-Mexican Laboratory of Informatics and Automatic Control (LAFMIA) an international research unit established at CINVESTAV. She is regular member of the Mexican Academia of Computing. In 2014 she obtained her Habilitation à Diriger des Recherches (HDR - tenure) from University of Grenoble. In 2000, she obtained her first PhD degree in Computer Science at University Joseph Fourier and in 2005 she obtained her second PhD degree in Literature at University Stendhal. In 1997 she obtained her first Master Degree in Computer Science at University Joseph Fourier and in 1998 she obtained her second Master Degree in Compared Literature at University Stendhal. She did her undergraduate

studies on Computer Systems Engineering at Universidad de las Américas in Puebla. Her research interests in Computer Science concern distributed and heterogeneous databases, reflexive systems and service based database systems. Particularly, she contributes to the construction of service based database management systems. The objective is to design data management services guided by Service Level Agreements (SLA) to provide methodologies, algorithms and tools for integrating, deploying and executing a service oriented data management functions. Quality of service criteria and behaviour properties included in SLA are adapted to applications requirements (e.g., transactional execution, reliability, fault tolerance). She conducts fundamental and applied research activities for addressing these challenges on different architectures ARM, raspberry, cluster, cloud, and HPC. She has applied her results to e-Science applications in Astronomy, Biology, social sciences, industry 4.0. Her research interests in Literature concern middle age Literature, myths' critics and myths' analysis applied to different myths of origins. She has coordinated several research projects in Europe and Latin America financed by governments and industrial partners. She actively promotes the scientific cooperation in Computer Science between Latin America and Europe particularly between France and Mexico.



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Keynote 3: Digital Twin: The convergence of Multimedia Technologies



Abdulmotaleb El Saddik (M01 SM04 F09), is Distinguished Professor and University Research Chair in the School of Electrical Engineering and Computer Science at the University of Ottawa. He completed his Dipl.-Ing. and Dr.-Ing. from the Technische Universität Darmstadt, Germany. He is the director of the Multimedia Communications research Laboratory and the Medical Devices Innovation Institute. Dr. El Saddik is an internationally-recognized scholar who has made strong contributions to the knowledge and understanding of multimedia computing, communications and applications. He is a leading haptics expert, with global recognition for his development of new technologies for real-time multisensory-based identification of humans (biometrics), synchronization of haptics, audio and visual data, Quality of Experience models for multisensory environments, and methods that dynamically compute the confidence levels of

sensory data in a collaborative environment. His work looks toward the establishment of Digital Twins using AI, AR/VR and Tactile Internet that allow people to interact in real-time with one another as well as with their digital representation. He has been extremely productive of high-quality research and impact. He is the author of more than 500 peer-reviewed articles and five patents. He is the author of the book *Haptics Technologies: Bringing Touch to Multimedia*. Dr. El Saddik is a Fellow of the IEEE, the Canadian Academy of Engineering and the Engineering Institute of Canada. He received several awards, including the Friedrich Wilhelm Bessel Award from the German Humboldt Foundation and the IEEE Instrumentation and Measurement Society Technical Achievement Award. He also received IEEE Canada C.C. Gotlieb (Computer) Medal and A.G.L. McNaughton Gold Medal for important contributions to the field of computer engineering and science.

Keynote 4: Scheduling Data-Intensive Applications in the Cloud Trends and Challenges



Helen Karatza is a Professor Emeritus in the Department of Informatics at the Aristotle University of Thessaloniki, Greece, where she teaches courses in the postgraduate and undergraduate level, and supervises doctoral and postdoctoral research. Dr. Karatza's research interests include Computer Systems Modeling and Simulation, Performance Evaluation, Grid and Cloud Computing, Energy Efficiency in Large Scale Distributed Systems, Resource Allocation and Scheduling and Real-time Distributed Systems. Dr. Karatza has authored or co-authored over 210 technical papers and book chapters including five papers that earned best paper awards at international conferences. She is senior member of IEEE, ACM and SCS, and she served as an elected member of the Board of Directors at Large of the Society for Modeling and Simulation International. She served as Chair and Keynote Speaker in International Conferences.

Dr. Karatza is the Editor-in-Chief of the Elsevier Journal "Simulation Modeling Practice and Theory" and Senior Associate Editor of the "Journal of Systems and Software" of Elsevier. She was Editor-in-Chief of "Simulation Transactions of The Society for Modeling and Simulation International" and Associate Editor of "ACM Transactions on Modeling and Computer Simulation". She served as Guest Editor of Special Issues in International Journals. More info about her activities/publications can be found in <http://agent.csd.auth.gr/~karatza/>



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Keynote 5: The Next Big Things: Big Data & Analytics, AI/ML, and Autonomous DB/DW



Mutaz M. Al-Debei is currently working as a Principal Cloud Platform Consultant - Big Data & Business Analytics at Oracle. Before joining Oracle, Mutaz was working as the Director of Big Data & Advanced Analytics at INTRASOFT MEA. Moreover and before joining INTRASOFT, Al-Debei was serving as an Associate Professor of Information Systems and Computing at the University of Jordan (UJ), and also as an ICT Chief Consultant at the National Center for Security and Crises Management. He also worked as an IT Manager for Arab Radio & Television (ART) in Jordan Media City and he held other positions in Al-Ahli Bank (Master Card Department) and Royal Scientific Society. Al-Debei earned his PhD from Brunel University London (BUL) in Information Systems and Computing in May, 2010. Furthermore, Al-Debei has received many international and national significant research awards such as Abdul Hameed Shoman Award for Arab Researchers –

ICTs, 2015, the prestigious Vice Chancellor's Prize for Doctoral Research from Brunel University London in 2010, the Distinguished Researcher Award from The University of Jordan - two times in 2012 and 2014, and best paper awards from UKAIS (2008), and another one from IFIP 8.2 (2010).

Keynote 6: NIST research on Trustworthy Networks



Abdella Battou is the Division Chief of the Advanced Network Technologies Division, within The Information Technology Lab at NIST. He also leads the Cloud Computing Program at NIST. Before joining NIST in 2012, Abdella served as the Executive Director of The Mid-Atlantic Crossroads (MAX) GigaPop founded by The University Of Maryland, The George Washington University, The Georgetown University and The Virginia Polytechnic Institute. From 2000 to 2009, he was Chief Technology Officer, and Vice President of Research and Development for Lambda Optical Systems, where he was responsible for overseeing the company's system architectures, hardware design and software development teams. Additionally, he served as senior research scientist for the Naval Research Laboratory's high speed networking group, Center for Computational Sciences from 1992 to 2000. Dr. Battou holds a PhD and MSEE in Electrical Engineering from the Catholic University of America.

Keynote 7: What Online Advertising Data Reveals about People and Societies



Ingmar Weber is the research director of the Social Computing Group at Qatar Computing Research Institute. His interdisciplinary research looks at what online user-generated data can tell us about the offline world and society at large. He works with sociologists, political scientists, demographers and medical professionals as well as with UN agencies and NGOs in the Data for Development space. Prior to joining QCRI, Dr Weber was a researcher at Yahoo! Research Barcelona. He holds a BA & Ma from Cambridge and did his PhD at the Max-Planck Institute for Computer Science. He's an ACM Distinguished Speaker and a IEEE and AAAI Senior Member.



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AICCSA 2018 Tutorials

Tutorial 1: Virtualized Network Functions Description, Publication and Discovery: Content Delivery Networks as Case Study



Khalil Drira received the Engineering and M.S. (DEA) degrees in Computer Science from ENSEEIHT (INP Toulouse), in June and September 1988 respectively. He obtained the Ph.D. and HDR degrees in Computer Science from UPS , University Paul Sabatier Toulouse, in October 1992, and January 2005 respectively. He was from oct 1992 to spet 2010, Chargé de Recherche, and he is since oct 2010 Directeur de Recherche, a full-time research position at the French National Center for Scientific Research (CNRS). Khalil DRIRA's research interests include formal design, implementation, testing and provisioning of distributed communicating systems and cooperative networked services. His research activity addressed and addresses different topics in this field focusing on model-based analysis and design of correctness properties including testability, robustness,

adaptability and reconfiguration. He is or has been involved in several national and international projects in the field of distributed and concurrent communicating systems. He is author of more than 150 regular and invited papers in international conferences and journals. He is or has been initiator of different national and international projects and collaborations in the field of networked services and distributed and communicating systems. Khalil DRIRA is or has been member of the programme committees of international and national conferences. He is member of the editorial board of different international journals in the field of software architecture and communicating and distributed systems. Khalil DRIRA has been editor of a number of proceedings, books and journal issues in these fields.



Sami Yangui is Associate Professor at the GEI Department of INSA Toulouse. In 2014, he obtained a PhD in computer science from TELECOM Sud-Paris, and a Master's degree in computer science from the University of Tunis El-Manar, Tunisia, in 2010. He is a member of the SARA team - Services and Architectures for Advanced Networks at LAAS / CNRS. His research interests include distributed systems and architectures, service-oriented computing and the Internet of Things (IoT). He is involved in various European and international projects, as well as standardization committees. He has published several articles in scientific conferences and journals. He has also served on many program

and international conferences and workshops. At GEI, he teaches Cloud Computing and Big Data. He is also involved in object-oriented modeling and programming courses, as well as in distributed infrastructure virtualization and networking courses.

Abstract

Virtual Network Functions (VNF) are the concrete implementation of network functions using software that is decoupled from the underlying hardware. The VNFs are published and instantiated from dedicated network providers' repositories. Existing description models are proprietary and specific to the owner providers. Moreover, the existing models include information concerning VNFs deployment but fail to include their related functional and nonfunctional specifications. This tutorial aims to introduce to the attendees a novel Virtualized Network Function ontology (VIKING for short) for VNFs description and publication in federated repositories. It also shows our semantic-based procedure to discover the most relevant VNFs from repositories based on a specific need. The network functions of a Content Delivery Network (CDN) will be considered as illustrative use case during this tutorial. This tutorial will be given for the very first time.



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Tutorial 2: From Row data to Intelligent Decision Making in Real Word applications



Salima Hassas is Professor at University of Lyon (Claude Bernard- Lyon 1 University). She leads the Multi-Agents Systems research group at the LIRIS-CNRS Laboratory. Her research interests include bio-Inspired multiagents systems and self-* (self-organizing and self-adaptive systems), constructivist approaches for autonomous and cognitive agents, developmental artificial intelligence... Her research is applied to several application domains like Smart Environments (Smart Home, Smart Grid, Smart traffic Road, ..) and Ambient Intelligence, Intelligent Mobility, Virtual Assistants and Recommendation Systems and Social Robotics. Pr. Salima Hassas, is also strongly involved in FAS* (Fundamentals and Application of Self-* Systems) community where she served several times at chairing positions for the IEEE SASO conference (Steering Committee, General Chair, PC Chair, etc.) she also serves in the PC of major conferences in AI (AAAI, AAMAS, IJCAI, ECAI, ALIFE, ECAL, etc.) and as Associate Editor for ACM TAAS (Transactions on Autonomous and Adaptive Systems) Journal. Pr. Salima Hassas is regularly invited as an Expert for European (H2020, FP7), National (ANR) and International (Germany, Canada, Norway, etc.) research projects evaluation.



Nadia Kabachi is an associate professor at Lyon 1 University since 2002. She is a member of the National Council of Universities (CNU) in section "Computer Science", she is a head of International relations in Computer Science department. Nadia is a member of the Research Committee at Lyon 1 University. She is also a responsible for the education project to create a "double degree" license and master in Computer Science at the Ho Chi Minh University (Saigon, Vietnam). She is a Vice-President of the "PrétopologiCs" association. Her research activity has been shared between theoretical contributions and application issues: Theoretical: Cloud Computing; Data placement and Optimization; Distributed Data Warehouses; Big Data Processing; Negotiation in Multi-agent Systems (Protocols and Decisions making process)... Applications: Decision making; Agent Based modelling and Simulation of Complex Systems; Health care systems... She has co-supervised 5 PhD thesis and has also supervised several master students.



Chirine Ghedira Guegan is a full professor of computer sciences at IAE Lyon School of management – Jean Moulin University Lyon 3 – France. She is co-head of the Service-Oriented Computing research team at the LIRIS-CNRS Laboratory. She is the President of the Committee of Experts in Computer Science & Mathematics in Lyon3 and the Research Development Manager of IAELyon. Her research interests are in Service-oriented Architectures and Computing, Complex-, Autonomic-, and Adaptive Systems, and Context-aware Computing including all aspects related to collaborative systems (e.g., Workflow technologies). A more recent thread of research interest concerns Data services, Data integration, Trust, privacy, IoT and Cloud computing. Her research is applied to several application domains like Healthcare, Smart Home and Recommendation Systems.

Abstract

Our era of massive data and knowledge is no longer a novelty. The amounts of data, especially in crucial domains such as traffic or health ones, are increasing exponentially. Consequently, retrieving the most relevant information for the end user on time is a problem that has not yet been solved. Indeed, with large-volume, heterogeneous, autonomous sources with distributed and decentralized control, exploring complex and evolving relationships among harvesting data for a decision making cannot be ensured with classical approaches, techniques and, tools. The general aim of decision making in this era is to reduce large-scale problems to a scale that humans can comprehend and act upon. To this end, there are extreme challenges for new models, advances and adaptation in technologies and methodologies for: (i) an Intelligent collection and integration of heterogeneous sources of data; (ii) extracting, aggregating and discovering useful and dynamic knowledge from Big Data either sensitive, certain or not; (iii) decentralized management of data, and Artificial Intelligence technologies for an Intelligent decision making. To meet those challenges, it's necessary to develop intuitive systems with some degree of intelligence and agent technology has proved to be a reliable too with great potential for solving problems especially in large scale distributed systems in several domains. This tutorial overviews the new trends accordingly. It aims to enrich attendees' knowledge on Big Data, the notion of resource, collection and integration of multi-



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sources, data warehouses and intelligent cubes, aggregation of knowledge, AI technology & the contribution of semantic services-oriented architectures.

Tutorial 3: Design and deployments of Wireless Sensor Networks



Prof. **Jaime Lloret** (jlloret@dcom.upv.es) received his B.Sc.+M.Sc. in Physics in 1997, his B.Sc.+M.Sc. in electronic Engineering in 2003 and his Ph.D. in telecommunication engineering (Dr. Ing.) in 2006. He is a Cisco Certified Network Professional Instructor. He worked as a network designer and administrator in several enterprises. He is currently Associate Professor in the Polytechnic University of Valencia. He is the Chair of the Integrated Management Coastal Research Institute (IGIC) and he is the head of the "Active and collaborative techniques and use of technologic resources in the education (EITACURTE)" Innovation Group. He is the director of the University Diploma "Redes y Comunicaciones de Ordenadores" and he has been the director of the University Master "Digital Post Production". He was Vice-chair for The Europe/Africa Region of Cognitive Networks Technical Committee (IEEE Communications Society) and Vice-chair of the

Internet Technical Committee (IEEE Communications Society and Internet society). He has been Internet Technical Committee chair (IEEE Communications Society and Internet society). He has authored 22 book chapters and has more than 450 research papers published in national and international conferences, international journals (more than 200 with ISI Thomson JCR). He has been the co-editor of 40 conference proceedings and guest editor of several international books and journals. He is editor-in-chief of the "Ad Hoc and Sensor Wireless Networks" (with ISI Thomson Impact Factor), the international journal "Networks Protocols and Algorithms", and the International Journal of Multimedia Communications. Moreover, he is Associate Editor-in-Chief of "Sensors" in the Section sensor Networks, he is advisory board member of the "International Journal of Distributed Sensor Networks" (both with ISI Thomson Impact factor), and he is IARIA Journals Board Chair (8 Journals). Moreover, he is (or has been) associate editor of 46 international journals (16 of them with ISI Thomson Impact Factor). He has been involved in more than 450 Program committees of international conferences, and more than 150 organization and steering committees. He has led many local, regional, national and European projects. He is currently the chair of the Working Group of the Standard IEEE 1907.1. He has been general chair (or co-chair) of 40 International workshops and conferences. He is IEEE Senior, ACM Senior and IARIA Fellow

Abstract

Sensor technology is currently used everywhere in any type of environment. Theoretical proposals and theories, appeared 15 years ago, have become real development of distributed mechanisms and small devices with both low cost and low energy consumption, while they have enough computing capacity for processing information locally and communicating wirelessly with other elements. The ubiquity nature of wireless sensor networks (WSN) allows them to monitor any type of environment and can be focused on any type of purpose. The environment where WSN could be applied can range from human healthcare systems to the creation of smart systems, such as for smart cities or even for animal welfare and feeding systems. Moreover, some features, such as scalability and protocol optimization, must be taken into account when amount of sensors are necessary to sense an environment or take measurements from the surroundings. In this tutorial, we are going to show several sensor node platforms and devices, which have been used for real implementations. We will show how their features have been changed along the time and we will revise the benefits of the most updated sensor nodes available in the market. Characteristics like improved wireless cards to reach larger distances and low power consumption when transmitting, high computing capacity to process the data gathered and even to provide routing services between nodes without direct vision and more input/output port to include more sensors in a single device, make them a very powerful tool to acquire data from the environment while they are easy to be deployed and allow self-configuration. We will also show some wireless sensor network protocols and algorithms deployed to allow communication between nodes, which have been designed taking into account low energy consumption, while keeping the distributed system feature. The talk will end with the explanation of some practical deployments.



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Social Event



Trip to Petra

Petra, the world wonder, is without a doubt Jordan's most valuable treasure and greatest tourist attraction. It is a vast, unique city, carved into the sheer rock face by the Nabataeans, an industrious Arab people who settled here more than 2000 years ago, turning it into an important junction for the silk, spice and other trade routes that linked China, India and southern Arabia with Egypt, Syria, Greece and Rome. Entrance to the city is through the Siq, a narrow gorge, over 1km in length, which is flanked on either side by soaring, 80m high cliffs. Just walking through the Siq is an experience in itself. The colours and formations of the rocks are dazzling. As you reach the end of the Siq you will catch your first glimpse of Al-Khazneh (Treasury). This is an awe-inspiring experience. A massive façade, 30m wide and 43m high, carved out of the sheer, dusky pink rock-face and dwarfing everything around it. It was carved in the early 1st century as the tomb of an important Nabataean king and represents the engineering genius of these ancient people. The Treasury is merely the first of the many wonders that make up Petra. You will need at least four or five days to really explore everything here. As you enter the Petra valley you will be overwhelmed by the natural beauty of this place and its outstanding architectural achievements. There are hundreds of elaborate rock-cut tombs with intricate carvings - unlike the houses, which were destroyed mostly by earthquakes, the tombs were carved to last throughout the afterlife and 500 have survived, empty but bewitching as you file past their dark openings. Here also is a massive Nabataean-built, Inside the site, several artisans from the town of Wadi Musa and a nearby Bedouin settlement have set up small stalls selling local handicrafts, such as pottery and Bedouin jewellery, and bottles of striated multi-coloured sands from the area.

Venue

AICCSA 2018 will take place in the beautiful city of Aqaba, Jordan at the Luxury 5* Hotel - InterContinental -Aqaba (Resort Aqaba) (Click here). The Luxury Red Sea Resort with a private Beach, is right in the center of the City of Aqaba and is only 10 minutes trip to Aqaba (King Hussein) Airport.



There are direct flights to Aqaba from the following Cities: Sofia, Bulgaria; Amman, Jordan; Istanbul, Turkey; Cairo, Egypt; Cologne, Germany; Athens, Greece; Rome, Italy. If you fancy a beautiful, inspirational road trip, full of history, you can either take a taxi (group is advised to share the cost) or take public transport (Modern Buses with Aircon). You can also rent a car at the airport. For more information about the city of Aqaba and Jordan, please do visit: www.visitjordan.com

PROGRAM AT A GLANCE

	Sunday, October 28, 2018	Monday, October 29, 2018	Tuesday, October 30, 2018	Wednesday, October 31, 2018	Thursday, November 01, 2018				
08:00 - 17:00	Onsite Registration	Onsite Registration	Onsite Registration	Onsite Registration	Onsite Registration				
09:00 - 09:30	Opening & Welcome	Keynote Prof. Helen Karatza Keynote Dr. Abdella Battou Room : Dhana	Keynote Dr. Mutaz M. Al-Debei Room : Dhana		Networking & Social activity (PETRA) Hosted by Hussein Ben Talal University	AICCSA'2018 Main Conference Room Arabah	Workshop @AICCSA'2018 Room Fayrouz	AI & Services Tutorial Room Yaqout	
09:30 - 10:00	Keynote Prof. Ingmar Weber Room : Dhana		Coffee break			Coffee break			
10:00 - 10:30									
10:30 - 11:00	Coffee break	Coffee break	AICCSA'2018 Main Conference Room Arabah	Workshop @AICCSA'2018 Room Fayrouz		Oasis seminar Room Masa	Oracle Tutorial Room Yaqout		
11:00 - 11:30	AICCSA'2018 Main Conference Room Arabah	PHD Forum Room Yaqout	AICCSA'2018 Main Conference Room Arabah	Workshop @AICCSA'2018 Room Fayrouz		Piotech Tutorial Room Yaqout			
11:30 - 12:00								Keynote Prof. Genoveva Vargas Solar Room : Dhana	
12:00 - 12:30									
12:30 - 13:00	Lunch	Lunch	Lunch	Lunch		Lunch			
13:00 - 13:30									
13:30 - 14:00	Keynote Prof. Khaled Salah Room : Dhana	AICCSA'2018 Main Conference Room Arabah	Workshop @AICCSA'2018 Room Fayrouz	Posters short presentations Room : Dhana		IOT Tutorial Room Yaqout	Keynote Prof. Abdulmotaleb El Saddik Room : Dhana	AICCSA'2018 Main Conference Room Arabah	Workshop @AICCSA'2018 Room Fayrouz
14:00 - 14:30						Panel disucusion Room : Dhana			
14:30 - 15:00	AICCSA'2018 Main Conference Room Arabah	Workshop @AICCSA'2018 Room Fayrouz	PHD Forum Room Yaqout						
15:00 - 15:30									
15:30 - 16:00			Coffee break	Coffee break				Coffee Break & Refreshment and Conference Closing	
16:00 - 17:00			POSTERS Display Session (Best poster Judging) Room Dhana						
18:00 - 20:00	Welcome Reception - finger buffet					DINNER Offred by Hussein Ben Talal University			
19:30 - 23:00			GALA DINNER						

