



IEEE-2018 International Conference on Control,
Automation and Diagnosis (ICCAD'18)
March 19-21, 2018, Marrakech-Morocco.

Website: <http://www.iccad2018.com>



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Khalid El Yassini, Morocco	Mohamed Sabbane, Morocco	Nizar Rokbani, Tunisia
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Khaled Abu Khuloud, Italy	Mohmed El Koutbi, Morocco	Qing-Long Han, Australia
Layth Sliman, France	Mostafa Belkasmi, Morocco	Rachid El Azouzi, France
Luis Orozco Barbosa, Spain	Mostafa Ezziyyani, Morocco	Rachid El Kouche, Morocco
Larbi Chrifi, France	Mostafa Hefnawi, Canada	Rachida Ajhoun, Morocco
Lassaad Sbita, Tunisia	Mostapha Zbakh, Morocco	Said Drid, Algeria
Marouane EL Mabrouk, Morocco		Said El Hajji, Morocco
Mahir Dursun, Turkey		Salah Saad, Algeria
Marcos Tsuzuki, Brazil		Said El Kafhali, Morocco
Michel Zasadzinski, France		Said Raghay, Morocco
Mohamed Habib Kammoun, Tunisia		Salma Gaou, Morocco
Mohamed Ali Khoidja, KSA		Slimane Mekaoui, Algeria

Sofiane Ahmedali, France

Sofia Douda, Morocco

Touafiq Gadi, Morocco

Tarek Garna, Tunisia

Tahar Bahi, Algeria

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Welcome Message

Welcome to the Second International Conference on Control, Automation and Diagnosis (ICCAD'18) Conference, which will be held at Mogador Hotel, Marrakesh, Morocco during March 19-21, 2017. Last year, ICCAD'17 was held in Hammamet in Tunisia. ICCAD'18 is organized by the IR2M Laboratory of the Faculty of Sciences and Techniques, Settat, Morocco and the Tunisian Association of Technology and Sustainable Development (ATTeDD) of the Higher Institute of Transport and Logistics of Sousse. The Conference is Technically Supported by the International IEEE, IEEE Moroccan Section and IEEE Tunisia Section.

ICCAD'18 is a forum for presenting excellent results and new challenges facing the field of the reliability and availability of Control, Automation and Diagnosis. The conference addresses both theoretical and applicative aspects. It brings together experts from industry, governments and academia, experienced in engineering, design and research. This conference will provide a remarkable opportunity for the academic and industrial communities to address new challenges, share solutions and discuss future research directions.

ICCAD'18 received submissions from over 25 countries and each paper was reviewed by at least 3 reviewers in a standard peer-review process. Based on the recommendation by three independent referees, finally about 121 papers were accepted for oral presentations. Papers that respects strictly the IEEE template will be published in the Digital Library of IEEE Xplore. Extended version of the each best selected paper will be published in one of the following journals:

- International Journal of System Dynamics Applications
- International Journal of Intelligent Engineering Informatics
- International Journal of Service Science, Management, Engineering, and Technology

Many people have collaborated and worked hard to produce a successful ICCAD'18 conference. First and foremost, we would like to thank all the authors for submitting their papers to the conference, for their presentations and discussions during the conferences. Our thanks to Program Committee members and reviewers, who carried out the most difficult work by carefully evaluating the submitted papers. Our special thanks to our keynotes speakers Jérôme Harmand, professor at the LBE-INRA, France and Ahmad Taher Azar, Professor at the Benha University, Egypt, for the exciting plenary talks.

We express our sincere thanks to special session chairs, organizing committee chairs for helping us to formulate a rich technical program. We express also our sincere thanks to all the members of the Organizing Committee for the efforts they have made before and during the conferences.

We are also grateful to all our partners, from Morocco, the Faculty of Sciences and Techniques, Settat, Morocco, Hassan 1st University, Settat,, Higher Institute of Health Sciences, Settat, Hassan II Academy of Sciences and Technologies, GREENTIC Association, Casablanca, Big Atlas Association, Marrakesh, Center of Learning Innovation and Knowledge, Kénitra, the Continuing Education Group (GFC), Settat, from Tunisia, the University of Sousse and from Turkey, the University of Gazi, for their technical and financial support.

Welcome to Marrakech, Morocco and hope that you will enjoy the conference program.

General Chairs

Abdelkrim Haqiq, GreenTIC, IR2M Laboratory, FST, Hassan 1st University, Settat, Morocco

Ahmad Taher Azar, Faculty of Computers and Information, Benha University, Egypt

Hassani Messaoud, ENIM, University of Monastir, Tunisia

INVITED SPEAKERS



Speaker: Prof. Jerome Harmand, LBE-INRA, Narbonne, France

Title: Modeling and control of microbial ecosystems and biological processes

Abstract: Microbial ecosystems are the functional core of biotechnological processes. In this presentation, particular attention will be given to the so-called "chemostat" which makes it possible to produce cultures of microorganisms.

As a first step, we will review the different types of models available and see how useful their analysis can be to better understand some of today's important ecological issues. In particular, we will address issues of optimizing the functioning of these systems in relation to ecosystem biodiversity. We will also present recent results of optimal control in order to maximize the performance of certain depollution reactors.

Biography: Jerome Harmand is Research Director at INRA (French National Institute in Agronomic Research). Since 2015, he has led the SAMI team (System, Analysis, Modeling, Informatics) within the Laboratory of Environmental Biotechnology (<https://www6.montpellier.inra.fr/narbonne>). He is also the coordinator of the Euro Mediterranean research network TREASURE on the reuse of non-conventional waters (www.inra.fr/treasure) and the coordinator of the SICMED-REUSE network (www.sicmed.net).

His research focuses on the modeling and control of microbial ecosystems and bioprocesses. More precisely, the aim is to develop methods from automatic control theory for analysis and design, control and observation and, more generally, for the optimization of biological processes for environmental purposes (liquid and solid waste treatment, biomass valorization,...).

According to the scale of modeling adopted, considering as an elementary entity of a biological system sometimes the microbial individual, sometimes the floc or an element infinitesimal of biofilm sometimes the reactor, his research aim to identify and understand the links and interactions which condition the macroscopic behavior observed at the level of a population or a process and use the knowledge generated (formalized in the form of a system of differential equations) in order to better understand or even optimize the functioning of the entity studied.

He is the author of 95 papers in international peer-reviewed journals, about 120 papers in international conferences. Co-author of two patents, he has participated in several scientific books including the most recent "The chemist at: Mathematical theory of the continuous culture of microorganisms" which is the first volume of an ISTE series on modeling and control of bioprocesses.



Speaker: Prof. Ahmad Taher Azar, Benha University-Egypt

Title: Intelligent Techniques for Maximum Power Point Tracking (MPPT) of Photovoltaic System: Applications and Future

Abstract: Maximum Power Point Tracking (MPPT) methods are used in photovoltaic (PV) systems to continually maximize the PV array output power which generally depends on solar radiation and cell temperature. MPPT methods can be roughly classified into two categories: there are conventional methods, like the Perturbation and Observation (P&O) method and the Incremental Conductance (IncCond) method and advanced methods, such as, fuzzy logic (FL) based MPPT method. This presentation presents a survey of these methods in order to analyze, simulate, and evaluate a PV power supply system under varying meteorological conditions. This presentation also summarizes the current technology and status of soft computing MPPT as reported in various literature. It also provides an evaluation on the performance of various soft computing methods based on several criteria, namely PV array dependency, convergence time, ability to handle partial shading conditions, algorithm complexity and hardware/practical implementation.

Biography: Dr. Ahmad Azar has received the M.Sc. degree (2006) in System Dynamics and Ph.D degree (2009) in Adaptive Neuro-Fuzzy Systems from Faculty of Engineering, Cairo University (Egypt). He is currently assistant professor, Faculty of computers and information, Benha University, Egypt.

Dr. Azar is the Editor in Chief of International Journal of System Dynamics Applications (IJSDA) and International Journal of Service Science, Management, Engineering, and Technology (IJSSMET) published by IGI Global, USA. Also, he is the Editor in Chief of International Journal of Intelligent Engineering Informatics (IJIEI), Inderscience Publishers, Olney, UK.

Dr. Azar is associate editor of IEEE Trans. Neural Networks and Learning Systems. Dr. Ahmad Azar is a senior member of IEEE since 2013 and has worked in the areas of Control Theory & Applications, Process Control, Chaos Control and Synchronization, Nonlinear control, Robust Control, Computational Intelligence and has authored/coauthored over 190 research publications in peer-reviewed reputed journals, book chapters and conference proceedings.

He is an editor of many Books in the field of Intelligent control, Sliding mode control, Fuzzy logic control, Chaos modeling and control, computational intelligence, and Machine learning.

Dr. Ahmad Azar is closely associated with several international journals as a reviewer. He serves as international programme committee member in many international and peer-reviewed conferences. Dr Ahmad Azar is currently the Chair of IEEE Computational Intelligence Society (CIS) Egypt Chapter, Vice chair of IEEE Computational Intelligence Society Interdisciplinary Emergent Technologies Task Force and vice-Chair Research Activities of IEEE Robotics and Automation Society (RAS) Egypt Chapter. Also, he is the Vice-president (North) of System dynamics Africa Regional Chapter and an Academic Member of IEEE Systems, Man, and Cybernetics Society Technical Committee on Computational Collective Intelligence. .



Speaker: Prof. Dr. Mahir Dursun, Faculty of Technology, Gazi University, Ankara, Turkey

Title: An Optimized Design and Implementation of A Solar Powered Drip Irrigation Systems by using Genetic Algorithm and Artificial Neural Network

Abstract: This study presents a Solar Powered Drip Irrigation Systems project that it was released systematically in Tokat, Zile district of Turkey. In the system to decrease installation cost and to increase solar irrigation system's efficient moisture sensors inserted into soil. System was applied to apple and cherry gardens. The efficiency and installation costs of solar-powered drip irrigation systems depend on not only the efficiencies of the electrical motor, its driver, and the pump, but also the efficient usage of irrigation water.

In this study, the initial installation costs and energy consumption of photovoltaic irrigation systems were decreased by obtaining the soil moisture level as a reference for optimizing energy and water consumption in a solar-powered drip irrigation system. A central unit using radio transmission collected the data coming from 15 moisture sensors was placed in the area covered by the system. The soil moisture was estimated via an artificial neural network with the data obtained for 6m×6m×6m micro-regions. Next, the locations of the moisture sensors in the area were optimized using a genetic algorithm to provide the optimum energy and water consumption in the system. Subsequently, the drip irrigation was controlled using moisture data from only five sensors located at the best points, as determined by the genetic algorithm. The obtained experimental results indicated that the moisture rate at the end of the period of irrigation using the system developed was more homogeneous than that of traditional irrigation systems for each micro-region using only five soil moisture sensors in a non-homogeneous area. Thus, daily energy and water consumption were decreased by 32 %, while the moisture rate in the soil was maintained within the desired range.

Biography: Mahir Dursun has received his B.Sc. in Electric Education and Electric Electronic Engineering from Gazi University, Turkey, in 1993 and M.Sc. and Ph.D. degrees from Gazi University, Turkey in 1996 and 2002, respectively. In September 2002, he joined Faculty of Technical Education, where he is an Associate Professor. He established also managed a research company and the director of Industrial Automation, Electrical Motor Control and Design at Technopark. He is studied at University of Hope State, Liverpool, United Kingdom in 2004. He was with University of Southern, Louisiana, Baton Rouge for his sabbatical as Visiting Research Associate Professor, In 2012, His current research interests are System of Systems, Robotics, Micro Actuators, decision and support Theory, Link Systems, Unmanned Air Vehicles, Smart Grids, Control Systems, Electrical Machinery and Motor Drivers specially switched reluctance motors and brushless DC motors, Power Electronic, Microcontrollers, Industrial Automation Systems, Artificial Intelligent, Renewable Energy and System Design and Control. He has over 70 conferences and journals in these areas. He received Best Conference Paper Award 2010, Singapore and 2011 in Malaysia. He was a Keynote Speaker, at APCATS2015 conference, in Jeju Island, South Korea, May 2015.

He is also the co-author of a book called Crop Modeling and Decision Support, Publisher Springer Berlin Heidelberg, Copyright Holder, Springer-Verlag Berlin Heidelberg. and he is also published an "Industrial Automation Systems and PLC". He has been a reviewer for leading journals and conferences in both the IEEE, IACSIT and ASROther organizations. He serves as the Deputy Editor-in-Chief for International Journal of Computers and Electrical Engineering and as an Associate Editor for Turkish Journal of Computers and Electrical Engineering.

He has served as Chair of the 2nd International Conference on Fluid Dynamics and Thermodynamics Technologies, ICTLE 2013 International Conference on Transportation and Logistics ICTLE 2013, International Conference on Opto Electronics Systems ICEOS 2013, ICEEE 2014 International Conference on Electrical and Electronics Engineering, Euro-Asia Conference on Computational Intelligence and Communication Networks EACCI , International Conference on Fluid Dynamics and Thermodynamics Technologies (FDTT 2014), International Conference on Traffic and Logistic Engineering (ICTLE 2014). ICEEE 2015, ICEEE 2016, ICEEE 2017 International Conference on Electrical and Electronics Engineering) conferences and ICCIT 2015, 2016, 2017, 2018.

**International Conference on Control,
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March 19-21, 2018

Marrakesh, Morocco

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TECHNICAL PROGRAM

DAY 1: MARCH 19, 2018

08:00 – 09:00: Registration

09:00-09:30: Opening ceremony

09:30-10:30: Plenary Talk I

Chair: Pr. Chakib Ben Njima

Title: Modeling and control of microbial ecosystems and biological processes

Speaker: Prof. Jerome Harmand, *LBE-INRA, Narbonne, France*

10:30-10:45: Coffee Break

Room A: 10:45-13:00

Chair: Pr. Hajar Mousannif

ID	Authors & Title
33	<i>Evaluation the QoS parameters in differents SDN architectures using Omnet 4.6++</i>
	Fatima Laassiri, Mohamed Moughit and Nouredine Idboufker
38	<i>Design and implementation wireless system by using microcontrollers. Application for drive multiple stepper motor or robotic arm.</i>
	Fekhar Hassene and Habbi Hacene
45	<i>High Efficiency WLANs IEEE 802.11ax Performance Evaluation</i>
	Zineb Machrouh and Abdellah Najid
50	<i>Resource Management for Wireless Communication Systems: Allocation Methods</i>
	Sara Riahi and Ali Elhore
120	<i>New monitoring system for Baby Incubator using Wireless Sensor Networks & Android</i>
	Benahmed Khelifa, Gasbaoui Mohamed El Amine and Mokeddem Zineb
182	<i>Black Hole Attack Security Issues in Mobile Ad-hoc Network: Survey</i>
	Shadi Aljawarneh
78	<i>Accuracy/Cost trade-off in localization problem for wireless sensor networks</i>
	Wafa Akkari, Badiia Bouhdid and Abdelfettah Belghith

Room B: 10:45-13:00

Chair: Pr. Hajar Bouzaouache

ID	Authors & Title
12	<i>Novel tumor extraction method using the Nl-means filter with expectation maximization</i>
	Yassine Sayd Tahri, Sandabad Sara, Abdelilah Raihani and Bouchaib Cherradi
21	<i>A fast and efficient image retrieval system based on color and texture features</i>
	El Mehdi Elaroussi, Nourddine Elhoussif and Hassan Silkan

115	<i>Online Buyer Behaviour in Virtual Companies</i>
	Domingos José da Silva Ferreira
43	<i>Classification of Iron Meteorites with High Frequency Ultrasonic Waves</i>
	El Abassi Dris, Faiz Bouazza and Ibhi Abderrahmane
181	<i>Classification of Algerian Speech Rhythm MSA</i>
	Ghania Droua-Hamdani
52	<i>A Image Registration Method Based On SIFT Detector and Genetic Algorithms</i>
	Fatiha Meskine, Nasreddine Taleb and Rachid Harba

Room C: 10:45-13:00

Chairs: Pr. Awatef Sayah and Pr. Mustapha Amghar

ID	Authors & Title
22	<i>Detection of Anomaly in Train Speed for Intelligent Railway Systems</i>
	Seungmin Kang, Sravana Sristi, Jabir Karachiwala and Yih-Chun Hu
25	<i>Quadrotor Unmanned Aerial Vehicle (UAV) control through Particle Swarm Optimization (PSO)</i>
	Nada El Gmili, Mostafa Mjahed, Elkari Abdeljalil and Hassan Ayad
23	<i>Supervision of industrial manipulators station by analytical corrector</i>
	Abdel Ouahab Ghrieb, Yahia Kourd and Noureddine Guersi
49	<i>Application of Predictive Maintenance for Detection of Gearing Faults in Rotating Machines</i>
	Abdelkader Slimane, Said Kebdani, Bouchouicha Benattou, Slimane Sid Ahmed, Bahram Kaddour, Chaib Mohammed and Sardi Noureddine
54	<i>Tactical Planning of Supply chain : Forms of uncertainty modeling</i>
	Sofia Kassami, Abdellah Zamma and Souad Ben Souda
143	<i>Thermo-photovoltaic solar system for production and storage energy</i>
	Mouna Ben Zohra, Amine Riad and Abdeilah Alhamany
129	<i>Development and design of a robotic sun-tracker based on smart actuator</i>
	Amine Riad, Mouna Ben Zohra and Abdeilah Alhamany

13:00 - 14:30: Lunch

14:30-15:15: Plenary Talk II

Chair: Pr. Jerome Harmand

Title: An Optimized Design and Implementation of a Solar Powered Drip Irrigation Systems by using Genetic Algorithm and Artificial Neural Network

Speaker: Prof. Dr. Mahir Dursun, *Faculty of Technology, Gazi University, Ankara, Turkey*

Room A: 15:15-16:45**Chair:** Pr. Hassani Messaoud

ID	Authors & Title
16	<i>Stator fault detection for the input output control of the permanent magnet synchronous motor</i> Maanani Yacine, Menacer Arezki and Zouzou Sarra
18	<i>Robust Model Predictive Control for Nonlinear Time-Delay Systems</i> Sofiane Bououden and Ilyes Boulkaibet
23	<i>Extended State Observer Based Controller of Roll/Yaw Attitude Stabilization for Flexible satellite</i> Jalal Eddine Benmansour
34	<i>Mechatronic modeling and control of a doubly-fed wind turbine induction generator using the Bond Graph Approach</i> Khaouch Zakaria, Adar Mustapha and Najih Youssef
35	<i>A robust backstepping sliding mode control for MPPT based photovoltaic system with a DC–DC boost converter</i> Fatima Ez.Zahra Lamzouri, El-Mahjoub Boufounas and Aumeur El Amrani
172	<i>Cuckoo Search Optimized Adaptive Sliding Mode Controller for Active and Reactive Power Control in Wind Energy Conversion Systems</i> Mbarek Taleb and Mohamed Cherkaoui
141	<i>Backstepping Control of a Three Phase Grid Connected Photovoltaic System Without DC-DC Converter Feeding a Nonlinear Load</i> Hicham Bahri, Mohamed Aboufatah, M'hammed Guisser, Elhassane Abdelmounim and Oluwaseun Simon Adekanle

Room B: 15:15-16:45**Chairs:** Pr. Mohamed Hanini and Abdellah Zaaloul

ID	Authors & Title
53	<i>Development of 3D origami game based on Android</i> Li Qian and Hou Qun
55	<i>Towards a Test Execution Platform as-a-Service: Application in the e-Health Domain</i> Mariam Lahami, Moez Krichen and Mohamed Jmaiel
62	<i>Fairness allocation and sharing of resources by game theory: modelization and algorithms</i> Sara Riahi and Ali Elhore
65	<i>An idea of a clustering algorithm using support vecto rmachines based on binary decision tree</i> Halima Elaidi, Younes Elhaddar, Zahra Benabbou and Hassan Abbar
70	<i>Storing data in NOSQL data warehouses: Document-Oriented Model</i> Hiyane Youssef, Benmakhlouf Amine and Marzouk Abderrahim
170	<i>Protecting SCADA Critical Networks: from Needs to Security Mechanisms</i> Anas Abou El Kalam
11	<i>IoT Based Water Usage Monitoring System Using LabVIEW</i> Arun Mozhi Devan P, Pooventhan K, Mukesh Kumar C and Midhun Kumar R

Room C: 15:15-16:45

Chair: Pr. Pr. Mehrez Abdellaoui

ID	Authors & Title
57	<i>Fault-Tolerant H_{∞} Controller for a half-vehicle Active Suspension Systems</i>
	Jamal Mrazgua, El Houssaine Tissir and Mohamed Ouahi
60	<i>FPGA design and implementation of multiprocessor system-on-chip based on NiosII soft-core for smart control applications</i>
	Mohamed Amine Boukhal, Ismail Lagrat and Omar Elbannay
151	<i>Comparative study of DTC and Predictive Torque Control of Induction Machine</i>
	Sebti BELKACEM, Fouzia BENMESSAOUD, Abdesselem CHIKHI, Lakhder DJAGHDALI
63	<i>Radial Basis Function Neural Networks for Nonlinear System Control</i>
	Ayachi Errachdi and Mohamed Benrejeb
64	<i>Autonomous Bearing Fault Detection In Stationary Speed Condition</i>
	Souhayb Kass, Amani Raad and Jerome Antoni
66	<i>Unknown Input Observer Design for a Class of Discrete-time Takagi-Sugeno Implicit Systems</i>
	Mohamed Essabre, El Mahfoud El Bouatmani, Jalal Soulami, Abdellatif El Assoudi and El Hassane El Yaagoubi
67	<i>Observer-Based Stabilization Design for a Class of Discrete-time Takagi-Sugeno Descriptor Models</i>
	Ilham Hmaiddouch, El Mahfoud El Bouatmani, Jalal Soulami, Abdellatif El Assoudi and El Hassane El Yaagoubi
178	<i>Ant Supervised by Firefly Algorithm With a Local Search Mechanism, ASFA-2Opt</i>
	Nizar Rokbani and Ikram Twir

16:45-17:00: Coffee break

Room A: 17:00-18:30

Chair: Pr. Chakib Ben Njima

ID	Authors & Title
36	<i>An improved Robust Fault-Tolerant Trajectory Tracking Controller (FTTTC)</i>
	Samir Abdelmalek, Ahmad Taher Azar and Sarah Rezazi
37	<i>Fault tolerant control of internal faults in wind turbine Case study of gearbox efficiency decrease</i>
	Younes Ait El Maati, Lhoussain El Bahir and Khalid Faitah
41	<i>Adaptive Nonlinear Control for Synchronous Generator</i>
	Moulay Fatima, Habbati Assia and Hamdaoui Habib
46	<i>T-S fuzzy modeling and control of irrigation station: Experimental validation of PI control</i>
	Chakchouk Wael, Abderrahmen Zaafour and Anis Sellami
72	<i>Data-driven approaches for fuzzy prediction of temperature variations in heat exchanger process</i>
	Oualid Lamraoui, Yassine Boudouaoui and Hacene Habbi

39	<i>FPGA based Variable Structure Control of Direct Drive Permanent Magnet Synchronous Generator Wind Power</i>
	Chafik Eddahmani, Hassane Mahmoudi and Marouane El Azzaoui

Room B: 17:00-18:30

Chair: Pr. Abdelouahed Tajer

ID	Authors & Title
71	<i>Regional Exact Enlarge Observability of the Semilinear Heat Equation</i> Hayat Zouiten, Ali Boutoulout and Fatima-Zahrae El Alaoui
75	<i>Maximum Power Extraction Control and Variable Pitch Control of a Variable Speed Wind Turbine System using DFIG</i> Saihi Lakhdar
77	<i>Modeling of Optical Pulse Propagation in Linear Dispersive Media using JE-TLM Method</i> Abdellah Attalhaoui, El Hadi El Ouardy, Mouna Hanna, Mohamed Habibi and Hanan El Faylali
81	<i>Dynamic Output Feedback Design for a Class of Discrete Time Descriptor Takagi-Sugeno model</i> Boutayna Bentahra, Jalal Soulami, Abdellatif El Assoudi and El Hassane El Yaagoubi
82	<i>Linear Commands Comparison in a Real Time Simulation of a Quadrotors Unmanned Aerial Vehicle</i> Kheireddine Choutri, Mohand Lagha and Laurent Dala

Room C: 17:00-18:30

Chair: Pr. Abdelaziz Marzak

ID	Authors & Title
85	<i>Modeling and simulating the propagation of electromagnetic waves in multi-agent systems using Netlogo</i> Hamid Bezzout and Hanan El Faylali
42	<i>Impedance Control of Robotic Forceps for Safe Robotic Surgery</i> Chiharu Ishii and Tetsuya Oyama
92	<i>Analysis of Supply Chain Models in a System of Systems Context</i> Widad El Mrabet, Nissrine Souissi and Kawtar Tikito
164	<i>Predicting Maintainability of Object-Oriented System</i> Loubna Chhiba, Rachida Ait Abdelouahid and Abdelaziz Marzak
183	<i>Fresnel Lens-Focused Solar Panel: A New Approach for SHE (Solar-Hydroelectric)</i> Mahir Dursun and Fatih Saltuk

20:00 – 23:30

Gala Dinner

DAY 2: MARCH 20, 2018

09:00 – 09:30: Registration

09:30-10:30: Plenary Talk III

Chair: Pr. Hassani Messaoud

Title: Intelligent Techniques for Maximum Power Point Tracking (MPPT) of Photovoltaic: Applications and Future

Speaker: Prof. Ahmad Taher Azar, *Benha University-Egypt*

10:30-10:45: Coffee Break

Room A: 10:45-13:00

Chair: Pr. Hajar Mousannif

ID	Authors & Title
86	<i>An efficient technique for hardware/software partitioning based on Tabu Search</i>
	Jemai Mehdi, Dimassi Sonia, Ouni Bouraoui and Mtibaa Abdellatif
89	<i>Diagnosis hybrid dynamic system by multi-models</i>
	Olfka Azzabi, Chakib Ben Njima and Hassani Messaoud
101	<i>Fault diagnosis in discrete event systems using statistical model</i>
	Mohammed Msaaf and Fouad Belmajdoub
69	<i>A new method of fault detection for permanent magnet synchronous motor drive</i>
	Moez Abassi, Amor Khlaief and Oussama Saadaoui
37	<i>Fault tolerant control of internal faults in wind turbine Case study of gearbox efficiency decrease</i>
	Younes Ait El Maati, Lhoussain El Bahir and Khalid Faitah
73	<i>Improved PSO based K-means Clustering applied to Fault Signals Diagnosis</i>
	Soukaina Mjahed, Salah El Hadaj, Khadija Bouzaachane and Said Raghay
167	<i>Trust and Recommendation Systems : literature review and conceptual model</i>
	Abderrahmane Daif, Abdelilah Karouchi, Soumaya Ounacer and M. Azouazi

Room B: 10:45-13:00

Chair: Pr. Hajer Bouzaouache

ID	Authors & Title
91	<i>Adaptive Feedback Linearization Control Technique Applied to the Asynchronous Machine</i>
	Fatima Moulay, Assia Habbatti and Habib Hamdaoui
92	<i>Analysis of Supply Chain Models in a System of Systems Context</i>
	Widad El Mrabet, Nissrine Souissi and Kawtar Tikito
96	<i>Modeling and Estimation of the states of a linear system with commutation by the synthesis of a state observer: Application to road traffic</i>
	Walid Lebbou and Samira Taleb

118	<i>Numerical characterization of Symmetric Delamination in Orthotropic plate using Lamb waves</i>
	Salah Nissabouri, El Allami Mhammed and El Hassan Boutyour
177	<i>Detection of Kidney Fault using Slider Window Protocol</i>
	Sp. Chokkalingam and Samir Brahim Belhaouari
176	<i>Nonlinear Extended State Observer Approach to Disturbance Estimation and Compensation in Grid Connected DFIG Wind Turbine</i>
	Adekanle S Oluwaseun, M'Hammed Guisser, E. A., Hicham Bahri and A. B.
83	<i>Safety Evaluation of Hybrid Systems</i>
	Boucerredj Leila and Debbache Nasreddine

Room C: 10:45-13:00

Chair: Pr. Chakib Ben Njima

ID	Authors & Title
95	<i>Robust Control Design of an Induction Motor</i>
	Said Yahmedi and Chahrazed Yahmedi
97	<i>Control of Acrobot using Inverse Linear Quadratic Method</i>
	Nazih Hannouda and Hiroshi Takami
100	<i>Sliding Mode Control of Quadrotor Based on Differential Flatness</i>
	Abadi Amine, Ben Hadj Brahim Anis, Hassen Mekki, El Amraoui Adnen and Ramdani Nacim
106	<i>Hybrid Projective Chaos Synchronization by Adaptive Feedback Controllers</i>
	Sonia Hammami
126	<i>Clustering of Substrate Methane Production Using Kohonen Self Organising Feature Maps</i>
	Mohamed Tarek Khadir, Mokhless Kouas and Jérôme Harmand
68	<i>Observer based-controller design for a class of linear descriptor system</i>
	Boutayna Bentahra, Jalal Soulami, Abdellatif El Assoudi and El H. El Y.
133	<i>Feedback linearisation control of the Anaerobic Digestion plants: towards the enhancement of biogas production</i>
	Zeyneb Khedim, B. Benyahia, B. Cherki, JP Steyer and Jérôme Harmand

13:00 - 14:30: Lunch

Room A: 14:30-16:00**Chair:** Pr. Mohamed Hanini

ID	Authors & Title
99	<i>Computing intervals of Fuzzy Petri Net</i>
	Lajmi Fatma, Telmoudi Ashraf and Dhuibi Hédi
104	<i>Stockout prediction using matrices and linear supply chain model</i>
	Kishore Chalakal Varghese and Anna Maria Perdon
116	<i>MATLAB and Simulink Based Interactive Educational Tool for Switched Reluctance Motor</i>
	Semih Ozden and Gökhan Manav
117	<i>Optimum tuning of PI controller in a DFOC structure using Ant Lion Optimizer</i>
	Marouane Rayyam and Malika Zazi
121	<i>A new J-PAKE authentication protocol in the EPS networks</i>
	Mourad Abdeljebbar and Rachid El Kouch
171	<i>PSO-MPC Control of Artificial Pancreas</i>
	Mohamed El Hachimi, Abdelhakim Ballouk and Ilyass Khelafa
179	<i>Optimized fuzzy clustering by fast search and find of density peaks</i>
	Wan Man, Yin Shiqun, Sun Pengchao and Tan Tao

Room B: 14:30-16:00**Chairs:** Pr. Mehrez Abdellaoui and Pr. Awatef Sayah

ID	Authors & Title
153	<i>Using Interval Fuzzy Petri Net for Computing Capability of Uncertain Systems</i>
	Hedi Dhouibi and Jalel Ghabi
155	<i>Direct Power Control for three-phase Active Power Filter using Backstepping Technique</i>
	Tahar Hallabi, Ibtissam Lachkar and Saad Lissane Elhaq
158	<i>Parametric Uncertainty Impact on the estimation of pitch angle for HAWT Control</i>
	Naima Jouilel, Benaissa El Fahime and Mohammed Radouani
160	<i>Nonlinear process monitoring using a new kernel principal component analysis index</i>
	Hajer Lahdhiri and Okba Taouali
162	<i>Contribution onto prognosability based on discrete events systems</i>
	Redouane Kanazy, Samir Chafik and Eric Niel
166	<i>A New Robust Predictive Control Design Based on Laguerre Expansions</i>
	Jalel Ghabi and Hedi Dhouibi
84	<i>A Robust Trajectory Tracking for a Robot Manipulator</i>
	Wafa Boussada, Chakra Othman and Hajer Bouzaouache

Room C: 14:30-16:00**Chair:** Pr. Anas Abou El Kalam

ID	Authors & Title
165	<i>An Adaptive Control Strategy of Urban Signalized Intersection Using Petri Nets</i>
	Hajar.L El Idrissi, Abdelouahed Tajer, Ahmed Nait-Sidi-Moh and Badr Dakkak
104	<i>Stockout prediction using matrices and linear supply chain model</i>
	Kishore Chalakkal Varghese and Anna Maria Perdon
128	<i>Banking Security System Based on SVD Fingerprints and Cryptography Passwords</i>
	Ala Balti
159	<i>Extracting OCL Integrity Constraints From Object Relational Database</i>
	Fouad Toufik and Mohamed Bahaj

16:00-16:30: Coffee break**Room A: 16:30-18:00****Chairs:** Pr. Hajar Mousannif and Pr. Mustapha Amghar

ID	Authors & Title
119	<i>Kinship Verification using Context-Aware Local Binary Feature Learning</i>
	Tidjani Amina, Abdelmalik Taleb-Ahmed, Djamel Samai and Aiadi K. Eddine
124	<i>Automated segmentation of 7T MRI images of hippocampus</i>
	Nasser Soraya, Naoui Moukheir and Belalem Ghalem
142	<i>Improving Vehicle Localization in Hard Environment using GNSS-GSM Hybridization and Gaussian Mixture Noise</i>
	Guermah Bassma, Sadiki Tayeb and El Ghazi Hassan
163	<i>Artificial Network Based Kinematics: Robotic Surgery</i>
	Ahmed J.R. Almusawi, Lale Canan Dülger and Sadettin Kapucu
174	<i>Brain Tumors Classification From MR images Using a Neural Network and the Central Moments</i>
	Salim Ouchtati, Aissa Belmeguenai, Rafik Djemili and Mohamed Lashab
127	<i>MRAS Sensorless Vector Control of Induction Motor Using Artificial Neural Network</i>
	Imane Ghlib, Youcef Meslem, Gouichiche Abdelmadjid and Ahmad Zakaria Mehdi Chedjara

Room B: 16:30-18:00**Chair:** Pr. Said El Kafhali

ID	Authors & Title
144	<i>An improved energy-efficient routing protocol based on Minimum Spanning Tree (MST) for Wireless Sensor Network</i>
	Sana Messous
154	<i>Combing Tabu Search and Integer Programming for Arabic Text Summarization</i>
	Akrouit Mabrouk, Jaoua Maher and Jarray Fethi

156	<i>Impact analysis of cyber-attacks on Automatic Identification System of a Cargo Ship</i>
	Malik Shahzad Kaleem Awan
157	<i>Advanced Stemming Algorithm for Arabic text</i>
	Marieme Bougar and El Houssaine Ziyati
161	<i>Formal Development of smart objects in an Internet of Things System</i>
	Abdessamad Jarrar and Balouki Youssef
173	<i>Implementation approach for behavioural analysis in IDS based on risk assessment and attack pattern in cloud computing</i>
	Youssef Bencharhi, Bendriss Elmehdi, Nada Mannane and Regragui Boubker
50	<i>Safe Fuzzy Clustering in Vehicular Ad Hoc Networks</i>
	Mohamed Aissa, Badiia Bouhdid and Abdelfettah Belghith
56	<i>A Smart Greenhouse Solution based on IoT and Cloud Computing Technologies</i>
	Soheyb Ayad, Labib Sadek Terrissa, Okba Kazar and Nabila Aicha Benharkat

Room C: 16:30-18:00

Chair: Pr. Ahmad Taher Azar

ID	Authors & Title
145	<i>Fault tolerant control design for constrained Takagi-Sugeno systems</i>
	Sabrina Aouaouda and Mohammed Chadli
146	<i>Semi-Active Suspension of Half-Vehicle and the Backstepping Control with Bouc-Wen Magnetorheological Damper model</i>
	El Majdoub Khalid, Ouadi Hamid, Belbounagia Nouredine, Ammari Oussama and Souhail Rachid
148	<i>Robust Adaptive Backstepping Control for web winding system of reversible cold rolling mill</i>
	Abdelmajid Akil, Mourad Zegrari and Nabila Rabbah
149	<i>Timed synthesis control approach for tolerant-fault control of Discrete Event Systems (DES)</i>
	Imane Tahiri, Alexandre Philippot, Veronique Carre-Menetrier and Abdelouahed Tajer
150	<i>Identification and Control of stable and unstable Systems by using Genetic Algorithm Method</i>
	Imane Siti, Mostafa Mjahed, Hassan Ayad and Abdeljalil El Kari
169	<i>Control of wind turbine system in presence of uncertainty</i>
	Hassan Salmi
175	<i>Experimental study of magnetic pulse welding generator and the field shaper effect on the current pulse</i>
	Khadija Sofi

18.00 - 18.15: Closing Ceremony

DAY 3: MARCH 21, 2018

Tourist Visit (Marrakesh)