16^{th} IEEE International Multi-Conference on on Systems, Signals and Devices (SSD'19)

March 21–24, 2019, Istanbul, Turkey

Organized by:

Istanbul Commerce University, İstanbul (Turkey)

University of Sfax, Ecole Nationale d'Ingénieurs de Sfax (Tunisia)

Leipzig University of Applied Sciences, (Germany)

Technische Universität Chemnitz (Germany)

Philadelphia University (Jordan)

King Fahd University of Petroleum and Minerals, Dahran, (Saudi Arabia)

University Sidi Mohamed Ben Abdallah, Fes (Morocco)

Ecole Mohammadia d'Ingénieurs, Rabat (Morocco)

Supported by:

IEEE IMS Instrumentation & Measurement Society

IEEE IM (Instrumentation & Measurement) Chapter

IEEE Turkey Section

IEEE Tunisia Section

IEEE Tunisia CS (Control Systems) Chapter

IEEE Tunisia PES (Power Engineering) Chapter

IEEE Tunisia SP (Signal Processing) Chapter

IEEE Tunisia SSC (Solid State Circuit) Chapter

Preface

On behalf of the SSD'2019 organizing committee, I am honored and delighted to welcome you to the 16th IEEE International Multi-Conference on Systems, Signals and Devices at İstanbul Commerce University, İstanbul, Turkey. I believe we have chosen a venue that guarantees a successful technical conference amid the culture and scenery of İstanbul.

Our technical program is rich and varied with four keynote speeches and four invited talks and around 144 technical papers selected among 249 submissions split between five parallel oral sessions each day. We also expect to provide technical demonstrations, and numerous opportunities for informal networking.

As a conference chair of SSD'2019, I know that the success of the conference depends ultimately on many people who have worked with us in planning and organizing both the technical program and supporting social arrangements. In particular, we thank the Program Chairs for their wise advice and brilliant suggestion on organizing the technical program; the Program Committee for their thorough and timely reviewing of the papers, and our sponsors who have helped us to keep down the costs of SSD'2019 for all participants.

Recognition should go to the Local Organizing Committee members who have all worked extremely hard for the details of important aspects of the conference programs and social activities.

Serhan Yarkan

Istanbul, Turkey

March, 2019

General Informations

Date and Location

The 16^{th} Multi-Conference on Systems, Signals and Devices 2019 will be held in Istanbul on $21-24$ March, 2019 to give an opportunity to contributors to visit other attractive corners of Turkey. Turkey is known as the country connecting the East to the West through Anatolia. Home to many diverse cultures, religions, empires and civilizations, Anatolia has an immense historical background to offer including one of the first settlements ever in human history and some of the world's most known cities such as Istanbul. Situated in the middle of three continents, Anatolia has always been a hub for cultural interaction, dating back to as early as 24th century BC. Surrounded by the Black Sea, the Aegean Sea and the Mediterranean Sea, the Anatolia Peninsula is home to varying climates enabling vegetation and therefore human settlements.

Location and Access:

The conference will be held at the Sütlüce Campus of Istanbul Commerce University on the European side of Istanbul. Istanbul has three airports. Buses, taxis, and car rental agencies are all available at the airports to connect travelers to the conference location. Depending on the airport, you have the following options:

Transportation from Atatürk Airport (IST):

Transportation via taxi: Distance: 17.1 km Estimated Time: 30 min. Estimated Price: 47 TL.

Transportation via public: From Atatürk Airport take the metro M1A line. Take off at Ataköy-Sirinevler interchange station in order to get on the Metrobus. Take any on 34, 34AS and 34BZ lines and take off at Ayvansaray station. From there you take 41ST bus line up until Istanbul Ticaret Üniversitesi station.

Transportation from Sabiha Gokcen Airport (SAW):

Transportation via taxi: Distance: 62.8 km Estimated Time: 68 min. Estimated Price: 161 TL.

Transportation via public: From Sabiha Gökcen Airport take the E-3 bus line. After that take off at 4. Levent Metro-Kagithane station. Walk towards Depo Arkasi station in order to take 41ST bus line. From there take 41ST bus line up until Istanbul Ticaret Üniversitesi station.

Transportation from Istanbul Airport (ISL):

Transportation via taxi: Distance: 43.6 km Estimated Time: 58 min. Estimated Price: 113 TL.

Traveling Agencies:

MiaVIPTours offers airport pickup services and car rental services to our guests with Turkish/English/Arabic speaking drivers.

- GSM: +90545 345 54 45
- Tel: +90850 888 0642
- Email: info@miaviptour.com

Hotel Information

There are numerous different hotels for different budgets in Istanbul. However, we recommend nearby hotels to avoid traffic.

Clarion Hotel Golden Horn

- Address : Sütlüce, Sivaseli Sokak No:10, İmrahor Cd., 34445 Beyoğlu
- Telephone : +90 212 314 04 44
- Website : www.clariongoldenhorn.com

Hilton Garden Inn Istanbul Golden Horn

- Address : Sütlüce Mahallesi, İmrahor Cd., 34445 Beyoğlu/Istanbul
- Telephone : +90 212 314 50 00
- Website :www.hilton.com.tr/oteller/turkiye/istanbul/hilton-garden-inn-istanbul-golden-horn-turkey

Lazzoni Hotel

- Address : Sütlüce Mahallesi, İmrahor Cd. No:14, 34445 Beyoğlu/Istanbul
- Telephone : +90 212 311 00 00
- Website : www.lazzonihotel.com/en/

The Host Country Turkey

Official Language:

The official language in Turkey is Turkish. The second language, which is taught at school until baccalaureate is English.

Currency Exchange:

International currencies can be changed in every bank or post-office in Turkey to Turkish Lira (TL). The exchange rates to and from € and US$ are approximately:

1 TL $\simeq$ 0.17 €	1 € $\simeq$ 5.95 TL
1 TL $\simeq$ 0.19 US$	1 US$ $\simeq$ 5.25 TL



Conference Web-Site

- www.ssd-conf.org

Conference Registration Desk

The Conference registration desk will be located in the Sütlüce Campus of Istanbul Commerce University and will be open throughout the whole event.

General Chairs

Serhan Yarkan (Turkey)
Moez Feki (Tunisia)
Olfa Kanoun (Germany)

General Co-Chairs

Kasim Al-Aubidy (Jordan), Abdallah Kouzou (Algeria)
and Abdul Wahid Al-Saif (Saudi Arabia)

Honorary Chairs

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Hans-Rolf Tränkler (Germany)
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Chtourou, Mohamed ..... (Tunisia)
Cuadras, Angel ..... (Spain)
Derbel, Faouzi ..... (Germany)
Djemel, Mohamed ..... (Tunisia)
Feki, Moez ..... (Tunisia)
Fischerauer, Gerhard ..... (Germany)
Kabbaj, Nabil ..... (Morocco)
Kanoun, Olfa ..... (Germany)
Kouzou, Abdallah ..... (Algeria)
Krichen, Lotfi ..... (Tunisia)
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Martinez Salamero, Luis ..... (Spain)
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Solaiman, Basel ..... (France)
Soufi, Youcef ..... (Algeria)
Younis, Mohamed bani ..... (Jordan)

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Enes Öz
Esat Elezi
Göksel Çankaya
Gamze Kirman
Halil Said Cankurtaran
Okan Kaya
Özgür Alaca
Uğurcan Altunay

Conference on
Systems, Automation & Control

Conference Chairs:

Muhammed Ali Aydın (Turkey)
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Scientific Program Committee:

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Benjelloun, Khalid (Morocco)
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Boubaker, Olfa (Tunisia)
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Boukhnifer, Moussa (France)
Boumhidi, Ismail (Morocco)
Castillo-Toledo, Bernardino (Mexico)
Chaabane, Mohamed (Tunisia)
Chaillet, Antoine (France)
Chemori, Ahmed (France)
Choura, Slim (Tunisia)
Cohen, Kelly (USA)
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Derbel, Nabil (Tunisia)
Dieulot, Jean-Yves (France)
Djemel, Mohamed (Tunisia)
El Ferik, Sami (Tunisia)
Farza, Mondher (France)
Feki, Moez (Tunisia)
Gao, Zhiwei (China)
Garcia, Germain (France)
Gasmi, Moncef (Tunisia)
Gauthier, Guy (Canada)
Ghommam, Jawhar (Tunisia)
Jumah, Mazin (Bahrain)
Kabbaj, M. Nabil (Morocco)
Kammouri Alami, S. (Morocco)
Ksantini, Mohamed (Tunisia)
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Mahir, Rami A. (Jordan)
Mazenc, Frederic (France)
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Mnif, Faiçal (Oman)
Mouhib, Omar (Morocco)
M'Saad, Mohamed (France)
Msahli, Faouzi (Tunisia)
Ould Bouamama, B. (France)
Paul, Leesha Paul (India)
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Poisson, Gerard (France)
Saad, Maarouf (Canada)
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Tutunji, Tareq (Jordan)
Werner, Herbert (Germany)
Yang, Jianxi (China)
Yusuf, Hasan (Oman)
Zhu, Quanmin (UK)

Topics:

Advances in linear control theory
System optimization
Multivariable control
Large scale systems
Infinite dimension systems
Nonlinear control
Distributed control
Predictive control
Geometric control
Adaptive control
Optimal and stochastic control
Variable Structure Control
Robust control
Hierarchical and man-machine systems
Intelligent control systems
Robotics and mechatronics
System identification
Biological and economical models & control
Neural networks and neural control
Fuzzy systems and fuzzy control

Conference on
Power Systems & Smart Energies

Conference Chairs:

Yasin Özçelep (Turkey)
Ahmed Hafaifa (Algeria)

Scientific Program Committee:

Addaim, Adnane (Morocco)
Aït-Ahmed, Nadia (France)
Al-Atrash, Jeris (Jordan)
Alazzawi, Wagah F. (Jordan)
Alolah, A. (Saudi Arabia)
Ayadi, Moez (Tunisia)
Belahrach, Hassan (Morocco)
Belhadj, Chokri (Saudi Arabia)
Belhaj Slama, Jelel (Tunisia)
Belkhodja Slama, Ilhem (Tunisia)
Ben Alla, Hocine (Algeria)
Ben Attia Sethom, H. (Tunisia)
Besbes, Mondher (France)
Bettayeb, Maamar (UAE)
Bossoufi, Badre (Morocco)
Bouazi, Aziz (Morocco)
Bouillault, Frédéric (France)
Boukettaya, Ghada (Tunisia)
Boussak, Mohamed (France)
Boutana, Ilhem (Algeria)
Braham, Ahmed (Tunisia)
Bruno François (France) (France)
Cairo, Josep (Spain)
Chebbi, Souad (Tunisia)
Colak, Tufan (UK)
D'Arco , Salvatore (Norway)
Denai Mouloud A. (Algeria)
Derouich, Aziz (Morocco)
Dhifaoui, Rachid (Tunisia)
Diallo, Demba (France)
Djennoune, Said (Algeria)
El Amraoui, Lilia (Tunisia)
El Hsnaoui, Abdennebi (Morocco)
El-Antably, Ahmed (USA)
El-Badsi, Bassem (Tunisia)
El-Barbari, Said (Tunisia)
El-Hajjaji, Ahmed (France)
El-Kady, Mohamed (Saudi Arabia)
Elleuch, Mohamed (Tunisia)
Elmenzhi, Lamiaa (Morocco)
Ghodbane, Fathi (Tunisia)
Guermazi, Abdessattar (Tunisia)
Hadj Abdallah, Hsan (Tunisia)
Hafaifa, Ahmed (Algeria)
Henneberger, Gerard (Germany)
Ilijevic, Stephan (Spain)
Jelassi, Khaled (Tunisia)
Kamoun, Mohamed Ben Ali (Tunisia)
Kchikach, Mustapha (Morocco)
Kirtley, Jim L. (USA)
Koubaa, Yassine (Tunisia)
Kouzou, Abdellah (Algeria)
Krichen, Lotfi (Tunisia)
Lagrioui, Ahmed (Morocco)
Lazim, Mohammed Tawfeeq (Jordan)
Lindemann, Andreas (Germany)
Machkour, Nadia (Morocco)
Magetto, Gaston (Belgium)
Mahmoudi, Hassan (Morocco)
Marchand, Claude (France)
Marta, Molinas (Norway)
Masmoudi, Ahmed (Tunisia)
Mekidèche, Mohamed (Algeria)
Mimouni, M. Faouzi (Tunisia)
Moghavvemi, Mahmoud (Malaysia)
Monmasson, Eric (France)
Montesinos-Miracle, Daniel (Spain)
Mrabet, Brahim (Saudi Arabia)
Multon, Bernard (France)
Nair, Nirmal (New Zeland)
Néji, Rafik (Tunisia)
Perfumo, Francesco (Italy)
Putrus, Ghanim (UK)
Rahmani, Salem (Tunisia)
Rufer, Alfred (Suitzerland)
Saied, Basil (Iraq)
Salhi, Issam (Morocco)
Saman, Wasim (Australia)
Sanjeevikumar, P. (India)
Sbita, Lassaad (Tunisia)
Soufi, Youcef (Algeria)
Tamura, Junji (Japan)
Trabelsi, Hafedh (Tunisia)
Yangui, Abderrazak (Tunisia)

Topics:

Automotive electrical systems
Electric machine design
Power electronic converters
Variable speed drives
Electric machines modeling and control
Special machines
Monitoring and diagnostics
Power systems
Renewable energy generation
Electromagnetic compatibility
Variable speed generating systems
Transformers

Conference on Communication, Signal Processing & Information Technology

Conference Chairs:
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Faouzi Derbel (Germany)
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Scientific Program Committee:

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Al-Sarirah, Saleh (Jordan)
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Berrada, Ismail (Morocco)
Besbes, Kamel (Tunisia)
Bossé, Éloi (Canada)
Bouallegue, Ammar (Tunisia)
Bouslama, Faouzi (Canada)
Cuppens, Frederic (France)
Dallet, Dominique (France)
Daood, Omar (Jordan)
Derbel, Faouzi (Germany)
Deriche, Mohamed (Saudi Arabia)
Djemel, Khalifa (France)
Drira, Khalil (France)
El Alami, Rachid (Morocco)
El Bekkali, Chakib (Morocco)
Ennaji, Abdellatif (France)
Frigui, Hichem (USA)
Gharsallah, Ali (Tunisia)
Ghezal, Adel (Tunisia)
Hadid, Abdenour (Finland)
Hamrouni, Kamel (Tunisia)
Holger, Karl (Germany)
Ibnkahla, Mohamed (Canada)
Jamel, Thamer M. (Jordan)
Jumah, Mazin (Bahrain)
Kallel Khanfir, Imène (Tunisia)
Kammoun Jemal, Inès (Tunisia)
Kamoun, Faouzi (Tunisia)
Kamoun, Lotfi (Tunisia)
Karray, Fakhreddine (Canada)
Khlifa, Nawres (Tunisia)
Lankl, Berthold (Germany)
Maaref, Hichem (France)
Mahir, Rami A. (Jordan)
Mammass, Driss (Morocco)
Masmoudi, Nouri (Tunisia)
Maussang, Frederic (France)
Olivier, Christian (France)
Ouni, Kais (Tunisia)
Popescu-Zeletin, R. (Germany)
Prevost, Lionel (France)
Reindl, Leonhard (Germany)
Ruan, Su (France)
Sabri, Abdelouahed (Morocco)
Sellami, Dorra (Tunisia)
Sellami, Mokhtar (Algeria)
Siala, Mohamed (Tunisia)
Sikora, Axel (Germany)
Solaiman, Basel (France)
Speidel, Joachim (Germany)
Vanheeghe, Philippe (France)
Zakriti, Alia (Morocco)
Zerguine, Ezzedine (Saudi Arabia)

Topics:

Data fusion
Signal processing
Communication systems
Digital signal processing
Image and video compression algorithms
Person authentication
Biometry and medical imaging
Modulation and signal design
Communication theory and techniques
Communication protocols and standards
Pattern recognition
Smart antennas
Speech recognition
Telecommunication systems
Coding compression
Information theory
Communication networks
Wireless communication
Optical communication
Wireless sensor networks
MIMO communications
Artificial intelligence
Information retrieval
Adaptive antennas

Conference on
Sensors, Circuits & Instrumentation Systems

Conference Chairs:
Gülsüm Zeynep Gürkaş Aydın (Turkey)
Abdelhamid Errachid (France)

Scientific Program Committee:

Abid, Mohamed (Tunisia)
Abu-Isbeh, Ibrahim (Jordan)
Akama, Seiki (Japan)
Alazzawi, Wagah F. (Jordan)
Al-Nama, Fawzi (Pakistan)
Al-Omoush, Abdullah (Jordan)
Ando, Bruno (Italy)
Attar, Hani (Jordan)
Attari, Mokhtar (Algeria)
Benbrahim, M. R. (Morocco)
Besbes, Kamel (Tunisia)
Bilas, Vedran (Hungaria)
Bouchaala, Dhouha (Tunisia)
Brenner, Werner (Austria)
Casas, Roberto (Spain)
Chaari, Lamia (Tunisia)
Cuadras, Angel (Spain)
Demidenko, Serge (New Zeeland)
Derbel, Faouzi (Germany)
Donida, Ruggero (Italy)
Errachid, Abdelhamid (France)
Fakhfakh, Ahmed (Tunisia)
Ferrari, Vittorio (Italy)
Fischerauer, Gerhard (Germany)
Fonseca, Luis (Spain)
Fröhlich, Thomas (Germany)
Gasulla, Manel (Spain)
Ghaffari, Fakhreddine (France)
Ghariani, Hamadi (Tunisia)
Groza, Voicu (Canada)
Gruden, Roman (Germany)
Gueaieb, Wail (Canada)
Guermazi, Mahdi (Tunisia)
Gupta, Vinod Kumar (India)
Himmel, Jörg (Germany)
Hornero, Gemma (Spain)
Ismail, Mohamed (USA)
Jawdeh, Ehab (Jordan)
Kanaan, Hadi Y. (Lebanon)
Kanoun, Olfa (Germany)
Kulpa, Krzysztof (Poland)
Ladjici, A. Amine (Algeria)
Landi, Carmine (Italy)
Lay-Ekuakille, Aimé (Italy)
Lerch, Reinhard (Germany)
Lewis, Noelle (France)
Loulou, Mourad (Tunisia)
Lucat, Claude (France)
Marco, Santiago (Spain)
Masmoudi, Mohamed (Tunisia)
Masmoudi, Nouri (Tunisia)
Mezghani, Brahim (Tunisia)
Miribel Catala, Pere (Spain)
Mukhopadhyay, Subhas (Australia)
Nakamatsu, Kazumi (Japan)
Omari, Mones (Jordan)
Ortmanns, Maurits (Germany)
Parvis, Marco (Italy)
Pelegri-Sebastia, Jose (Spain)
Piuri, Vincenzo (Italy)
Postolache, Octavian (Portugal)
Preishuber-Pfluegl, Josef (Germany)
Qahwaji, Rami (UK)
Qjidaa, Hassan (Morocco)
Ramirez, Diego (Spain)
Ramos, Pedro (Portugal)
Reindl, Leonhard (Germany)
Renaud, Sylvie (France)
Reverter, Ferran (Spain)
Ripka, Pavel (Czech)
Riu, Pere (Spain)
Rjeb, Abdelilah (Morocco)
Samet, Mounir (Tunisia)
Sanbi, Mustapha (Morocco)
Sardini, Emilio (Italy)
Sarirah, Saleh (Jordan)
Serrano, Ernesto (Spain)
Silva Girao, Pedro (Portugal)

Topics:

Fundamentals and physics
Self test
Fault tolerance system & diagnosis
Simulation and design
Calibration and quality insurance
Sensors and actuators
Transducer design
Optical sensors and applications
Biomedical instrumentation systems
Full custom and semi-custom integrated circuits:
- Design concepts
- architectures and high-performances
- low-power circuits

Circuits and systems
Analog and digital signal processing
Neural networks implementation
Pulse mode neural networks
Genetic algorithm implementation
Sigma delta converters
Design for testability
Low-voltage design
Low-power VLSI design
RF circuit design
Smart home
Life sciences
Environmental applications
Opto-electronics
Micro-machines

SSD'19: Multi-Conference Program

Time \ Date	Thursday, March 21^{st}	Friday, March 22^{nd}	Saturday, March 23^{rd}	Sunday, March 24^{th}
8:30	Registration			
9:30	Opening	Plenary Session 4	Keynote Lectures	Networking & Free activites
10:30	Coffee Break	Coffee Break	Coffee Break	
11:00	Plenary Session 1	Oral Sessions: SAC4, PSE3, CSP3, SCI3	Oral Sessions: SAC7, PSE6, CSP8, CSP9, SCI6	
11:45	Plenary Session 2			
12:30	Plenary Session 3			
13:00	Lunch	Lunch	Gala & Closure Ceremony	
13:30				
14:15	Oral Sessions: SAC1 SAC2, PSE1, CSP1, SCI1	Oral Sessions: SAC5, PSE4, CSP4, CSP5, SCI4	Networking & Free activites	
15:55	Coffee Break	Coffee Break		
16:15	Oral Sessions: SAC3, PSE2, CSP2, SCI2	Oral Sessions: SAC6, PSE5, CSP6, CSP7, SCI5		
18:00	SSD Meeting			
19:00				

Thursday, 21 of March, 2019

Thursday, 08:30-09:30



Registration

Thursday, 09:30-10:30



Opening Ceremony

Conference Hall **Thursday, 10:30-11:15**

Plenary Session 1 :
Chair : Ali Boyacı (Turkey)

PL 1 .....
Temel Kotil .....(Turkey)

Thursday, 11:15-11:45



Coffee Break

Conference Hall **Thursday, 11:45-12:30**

Plenary Session 2 :
Chair : Serhan Yarkan (Turkey)

PL 2 Are we ready for 5G vision? What is next? .....
Hüseyin Arslan .....(Turkey)

Conference Hall **Thursday, 12:30-13:00**

Plenary Session 3 :
Chair : Ali Rıza Ekti (Turkey)

PL 3 National Program "Reversing Jordanians Brain Drain" .....
Isam Mustafa .....(Jordan)

Thursday, 13:00-14:15



Lunch

Room: D-402 **Thursday, 14:15-15:55**

Session CSP 1 : Image processing

Chairs : Mohamed Deriche (Saudi Arabia)
Mehmet Deniz Demirci (Turkey)

CSP 1.1 New kernel method for MRI classification .....
Syrine Neffati, Okba Taouali, Kais Bouzrara ..... (Tunisia, Saudi Arabia)

CSP 1.2 Prefiltering Effect On HEVC Intra Prediction .....
Ons Bougacha, Mohamed Ali Ben Ayed, Nouri Masmoudi ..... (Tunisia)

CSP 1.3 Compression's Methods based on Frequency and Time Frequency Transforms applied on DNA's images .....
Mael Salah, Elloumi Oueslati, Zied Lachiri ..... (Tunisia)

CSP 1.4 Statistical analysis of QTBT structure of VersatileVideo Coding encoded videos .....
Naima Zouidi, Amina Kessentini, Fatma Belghith, Nouri Masmoudi ..... (Tunisia)

CSP 1.5 Biometric authentication based on multi-instance fingerprint fusion in degraded context

Lamia Rzouga Haddada, Najoua Essoukri Ben Amara ..... (Tunisia)

CSP 1.6 Detecting Recurrent Copy Number Variations from aCGH Data via Smoothness-Constrained Models .....
Mustafa Shawaqfeh, Ammar Gharaibeh ..... (Jordan)

Room: D-204 **Thursday, 14:15-15:55**

Session PSE 1 : Renewable energy systems I

Chairs : Hafedh Trabelsi (Tunisia)
Seyit Ahmet Sis (Turkey)

PSE 1.1 Cost benefit smart charging schedule for V2G applications .....
Khouloud Wali, Rayhane Koubaa, Lotfi Krichen .....
..... (Tunisia)

PSE 1.2 Voltage drop control for V2G applications .....
Khouloud Wali, Rayhane Koubaa, Lotfi Krichen ..... (Tunisia)

PSE 1.3 Management of RF Energy Harvesting: A Survey .....
Uthman Baroudi ..... (Saudi Arabia)

PSE 1.4 Robust energy management under demand uncertainty for a hybrid FC/UC electric vehicle .....
Rayhane Koubaa, Seddik Bacha, Lotfi Krichen ..... (Tunisia–France)

PSE 1.5 Finite Element Modeling and Analysis of a 6/2 Poles Brushless Doubly-Fed Induction Machine .....
Idhir Nezzari, Abdelhalim Kessal ..... (Algeria)

PSE 1.6 Distributed Consensus for Smart Grid Economic Dispatch with Prohibited Operating Zones .....
Mounira Hamdi, Lhassane Idoumghar, Mondher Chaoui, Abdennaceur Kachouri (Tunisia–France)

Room: D-202 **Thursday, 14:15-15:55**

Session SAC 1 : Fractional order systems

Chairs : Messaoud Amairi (Tunisia)
Muhammed Erdem İsenkul (Turkey)

SAC 1.1 Fractional Controller Design for Nonlinear Systems based on Multimodel Approach .
Mohamed Lazhar Wardi, Rihab Abdelkrim, Messaoud Amairi, Mohamed Naceur Abdelkrim, Aymen Rhouma ..... (Tunisia–Saudi Arabia)

SAC 1.2 Heat Exchanger Control Using Fuzzy Fractional-Order PID .....
Mujahed Al-Dhaifallah ..... (Saudi Arabia)

SAC 1.3 Autonomous navigation of mobile robot with combined Fractional order PI and fuzzy logic controllers .....
Najah Yousfi, Donia Abid, Nabil Derbel ..... (Tunisia)

SAC 1.4 UM shaper for fractional order systems: Time analysis and robustness study .....
Rim Jallouli-Khlif, Ahmed Abid, Pierre Melchior, Nabil Derbel ..... (Tunisia–France)

SAC 1.5 Instrumental variables based methods for linear systems identification with fractional models .....
Manel Chetoui, Mohamed Aoun ..... (Tunisia)

Room: D-404 **Thursday, 14:15-15:55**

Session SAC 2 : Fuzzy Systems & Neural Networks

Chairs : Mohamed Njah (Tunisia)
Ali Rıza Ekti (Turkey)

SAC 2.1 An adaptive Fuzzy-PID control of a lower limb active prosthesis under external perturbations .....
Abdallah Wiem, Rahma Boucetta, Saloua Bel Hadj Ali Naoui .....
..... (Tunisia)

SAC 2.2 Nonsingular Terminal Sliding Mode Adaptive FuzzyType 2 Control Based on Extended State Observer .....
Safa Choueikh Ben Salah, Essounbouli Najib, M'sahli Faouzi ..... (Tunisia)

SAC 2.3 Asymptoyic behavior of Takagi-Sugeno fuzzy control systems with bounded uncertainties .....
Mohamed Ksantini, Nizar Hadjtaieb, Mohamed Ali Hammami, François Delmotte (Tunisia–France)

SAC 2.4 Relaxed Stabilization conditions for Takagi-Sugeno systems .....
Rihab Abdelkrim, Mohamed Lazhar Wardi, Hamdi Gassara, Ahmed El Hajjaji, Mohamed Chaabane, Mohamed Naceur Abdelkrim ..... (Tunisia–Saudi Arabia–France)

SAC 2.5 Competition and Pure Mutation based ENN for Regression .....
Mohamed Njah, Ridha Hamdi .....
..... (Tunisia)

Room: D-403 **Thursday, 14:15-15:55**

Session SCI 1 : Micro and Nano Sensors

Chairs : Ammar Al-Hamry (Germany)
Serhan Yarkan (Turkey)

SCI 1.1 Optimization of MWCNTs/ Epoxy for high strain sensor performance .....
Ayda Bouhamed, Xin Sun, Olfa Kanoun ..... (Germany)

SCI 1.2 Induced-Stress Analysis of SU-8 Polymer Based Single Mass 3-Axis Piezoresistive MEMS Accelerometer .....
Aftab Ahmed, Awatef Khlifi, Shardul Pandit, Rajul Patkar, Pradeep Dixit, Brahim Mezghani, Maryam Shojaei Baghini ..... (Tunisia–India)

SCI 1.3 Effect of magnetic field on heat transfer enhancement using Fe3O4 nanofluids in a heated pipe .....
Munzer Ebaid, Mamdouh Al-Bsoul, Ayoup M. Ghrair ..... (Jordan)

SCI 1.4 Modeling and FEM Verification of Surface-Roughness Effect on the Static Response of RF-MEMS Switches .....
Hamid Nawaz, Muhammad Mubasher Saleem, Muhammad Umar Masood .....
..... (Pakistan)

SCI 1.5 Investigation of stability and dynamic behavior of a carbon nanotube/epoxy composite strain sensor .....
Alexander Lundberg, Olfa Kanoun, Xiang Zhao ..... (Germany)

Thursday, 15:55-16:15



Coffee Break

Room: D-204 **Thursday, 16:15-18:00**

Session CSP 2 : Recognition and Detection

Chairs : Mohammed Baniyounis (Jordan)
Muhammed Erdem İsenkul (Turkey)

CSP 2.1 An efficient method for the extraction of closed and open pores in fingerprint images
Houda Khmila, Nadia Smaoui, Imene Khanfir Kallel, Houda Ben Jmaa Derbel (Tunisia)

CSP 2.2 Cryptographic and Intrusion Detection System for automotive CAN bus: Survey and contributions .....
Mabrouka Gmiden, Mohamed Hedi Gmiden, Trabelsi Hafedh ..... (Tunisia)

CSP 2.3 Data Augmentation using non-rigid CPD Registration for 3D Facial Expression Recognition .....
Imen Hamrouni Trimech, Ahmed Maalej, Najoua Essoukri Ben Amara ..... (Tunisia)

CSP 2.4 Prevalence and Accuracy Measures of Diagnostic Tests for Metabolic Syndrome in Multi-ethnic Groups .....
Fazeelat Mazhar, Bilal Wajid, Faria Anwar, Nafeesa Mazhar, Mustafa AlShawaqfeh, Erchin Serpedin ..... (Pakistan–Jordan–USA)

CSP 2.5 Improving Turkish Telephone Speech Recognition with Data Augmentation and Out of Domain Data .....
Zeynep Uslu, Tülay Yıldırım ..... (Turkey)

Room: D-202 **Thursday, 16:15-18:00**

Session PSE 2 : Power Systems & Power Electronics

Chairs : Mohamed Elleuch (Tunisia)
Yasin Özçelep (Turkey)

PSE 2.1 Enhancing Radial Distribution Network Performance by Optimal Reconfiguration with PSO Algorithm .....
Raida Sellami, Rafik Neji, Tarek Bouktir ..... (Tunisia–Algeria)

PSE 2.2 Comparative Investigation of Bus-Clamping PFC Strategies for IM Drives .....
Zouari Wiem, Imen Nouira El Badsi, Bassem El badsi ..... (Tunisia)

PSE 2.3 An Online Grid Impedance Estimation Using Recursive Least Square For Islanding Detection .....
Imen Jarraya, Jihed Hmad, Trabelsi Hafedh, Azeddine Houari, Mohamed Machmoum (Tunisia–France)

PSE 2.4 Model predictive current control for grid-connected PWM rectifier with constant switching frequency .....
Kawther Fahem, Dhia Chariag, Lassaad Sbita ..... (Tunisia)

Room: D-403 **Thursday, 16:15-18:00**

Session SAC 3 : Adaptive Control

Chairs : Nabil Derbel (Tunisia)
Ali Boyacı (Turkey))

SAC 3.1 Estimation of Induction Furnace Charge Temperature Using Multiple Model Adaptive Estimator (MMAE) .....
Waladin Sa'id, Omar Jasim, Safanah M Raafat ..... (Iraq)

SAC 3.2 Adaptive Sliding Mode Control of Power System with Photovoltaic Generator .....
Hassan EL Fadil, Mostapha Oulcaid, Abdelhafid Yahya, Leila Ammeh, Fouad Giri (Morocco–France)

SAC 3.3 State filtering with intermittent unknown input and retransmission delay .....
Taouba Rhouma, Jean-yves Keller, Karim Chabir, Dominique Sauter, Mohamed Naceur Abdelkrim ..... (Tunisia–France)

SAC 3.4 Neural network trajectory tracking of tracked mobile robot .....
Madoka Asai, Gan Chen, Isao Takami ..... (Japan)

SAC 3.5 Intelligent Tuning of Augmented L1 Adaptive Control for Cerebral Palsy Kids Rehabilitation .....
Boutheina Maalej, Ahmed Chemori, Nabil Derbel ..... (Tunisia–France)

Room: D-402 **Thursday, 16:15-18:00**

Session SCI 2 : Sensor Systems 1

Chairs : Mohamed Ksantini (Tunisia)
Ali Rıza Ekti (Turkey)

SCI 2.1 Nanocomposite Pressure Sensor array for Nip Alignment Monitoring in Roll-to-Roll Printing Systems .....
Rajarajan Ramalingame, Arut Prakash Kaleeshwaran, Olfa Kanoun .....(Germany)

SCI 2.2 Establishing a Low and Variable Voltage Power Supply System with Digital Control
Assim Al-daraje .....(Jordan)

SCI 2.3 Combining Program Slicing and Algorithmic Debugging to Diagnose a PLC program
Mohammed Bani Younis, Al-Mutaz Bellah Mesmar .....(Jordan)

SCI 2.4 Flux Pipe Pads with Improved Coupling Characteristics .....
Seyit A Sis, Emre Orta .....(Turkey)

SCI 2.5 Evaluation of CCD -based Human Device Interface Sensor for the Velocity Measurement in Floodwater .....
Frank Wendler, Olfa Kanoun, Nivedita Pagar .....(Germany)

Thursday, 18:00-19:00



SSD Meeting

Friday, 22 of March, 2019

Conference Hall **Friday,09:30-10:30**

Plenary Session 4 :

Chairs : Cengiz Polat Uzunoğlu (Turkey)
Abdallah Kouzou (Algeria)

PL 4 The Electrochemical Performance of Solid-state Supercapacitors and Their Role in Storage of Solar Electricity .....
Amr Obeidat .....(Jordan)

Room: B-203 **Friday, 11:00-13:00**

Session CSP 3 : Signal Processing

Chairs : Omar Daoud (Jordan)
Mahmud Öztürk (Turkey)

CSP 3.1 Development of Vibration Monitoring Device for Rotating Machinery Based on μC/OS-III .....
Changsong Ma, Lin Wang, Bin Liu, Sidan Dai ..... (P.R. China)

CSP 3.2 Analysis of the SSLMS algorithm for complex-valued data .....
Azzedine Zerguine, Mohammed Mujahid Ulla Faiz .....(Saudi Arabia)

CSP 3.3 Comparison of Haar-like, HOG and LBP approaches for face detection in video sequences .....
Amal Adouani, Wiem Mimoun Ben Henia, Zied Lachiri ..... (Tunisia)

CSP 3.4 Subject-Independent Multi-Domain Facial EmotionRecognition with Local Salient Features .....
Salma Kasraoui, Zied Lachiri, Kurosh Madani ..... (Tunisia–France)

CSP 3.5 An Efficient PAPR Reduction Method based on Combination of Joint Segmentation and Iterative Search .....
Hao-lin Sun, Zhiqiang Zhou, Zhen-hao Sun, Yi-Hu Xu ..... (P.R. China)

CSP 3.6 Simulation of Harmonic Analysis, Synthesis and Gibbs Effect of Periodic Signals ....
Humera Rafique .....(Pakistan)

Room: D-204 **Friday, 11:00-13:00**

Session SAC 4 : Fault Detection and Diagnosis

Chairs : K. Al-Aubidy (Jordan)
Cengiz Polat Uzunoğlu (Turkey)

SAC 4.1 Prediction of Energy in Solar Powered Wireless Sensors Using Artificial Neural Network

Murad Al-Omary, Khaoula Hassini, Ahmed Fakhfakh, Olfa Kanoun ..... (Tunisia–Germany)

SAC 4.2 Fault Estimation Based on T-S Fuzzy Intermediate Observer for Nonlinear System ..
Ammar Zemzemi, Mohamed Kamel, Ahmed Toumi ..... (Tunisia)

SAC 4.3 Higher Order Sliding Mode Observers for Actuator Fault Detection and Isolation in Robot Manipulators .....
Khaoula Oulidi Omali, Nabil Kabbaj, Mohammed Benbrahim ..... (Morocco)

SAC 4.4 Agent-based Turing Complete Transactions integrating feedback within a Blockchain System .....
Craig Wright ..... (United Kingdom)

Session PSE 3 : Fault Detection and diagnosis

PSE 3.1 Harmonics generation Due to Multi-Cycle Auto Reclosing on HV Transmission Lines
Mohammed Lazim, Samer Salah, Mohammed Bani Younis ..... (Jordan)

PSE 3.2 Wireless Sensor Network Based Real-Time Monitoring and Fault Detection for Photovoltaic Systems .....
Kasim M. Al-Aubidy, Hudefah Al-kashashneh ..... (Jordan)

PSE 3.3 Experimental Analysis for enhancement of unbalanced standalone Wind Energy Conversion System .....
Salma Keskes, Souhir Sallem, Nouha Bouchiba, Mohamed Kamoun, Larbi Chrifi-Alaoui, Said Drid ..... (Tunisia–Algeria–France)

Room: B-404 **Friday, 11:00-13:00**

Session SCI 3 : Wireless Sensors

Chairs : Slim Naifar (Germany)
Aysel Ersoy Yılmaz (Turkey)

SCI 3.1 Validation of Energy Harvesting Designs for autarkic Wireless Sensor Networks .....
Lydia Schott, Florian Strakosch, Faouzi Derbel ..... (Germany)

SCI 3.2 Hybrid Solution for Enhanced Energy Harvester from Torsional Vibration .....
Carlo Trigona, Slim Naifar, Christian Viehweger, Olfa Kanoun .... (Germany–Italy)

SCI 3.3 Hardware Based Simulation Platform for Wireless Sensor Networks .....
Ilef Ketata, Sadok Bdiri, Nabil Derbel, Faouzi Derbel ..... (Tunisia–Germany)

SCI 3.4 A New Crass-By-Pass-Folded-Torus Design for On-Chip Communication .....
Usman Ali Gulzari, Sarzamin Khan, Sheraz Anjum, Waseem Abbasi, Frank Torres, Hessam Sarjoughian ..... (Brazil–Pakistan–USA)

SCI 3.5 Testbed Implementation of a Fuzzy based Energy Efficient Clustering for Wireless Sensor Networks .....
Jawhar Ben Salem, Sabrine Khriji, Mouna Baklouti, Inès Kammoun, Olfa Kanoun (Tunisia–Germany)

Friday, 13:00-14:15



Lunch

Room: B-404 **Friday, 14:15-15:55**

Session CSP 4 : Text & Speech recognition

Chairs : Mehmet Deniz Demirci (Turkey)
Mahmud Öztürk (Turkey)

CSP 4.1 Improving Low Resource Turkish Speech Recognition with Data Augmentation and TTS .....
Ramazan Gokay, Hulya Yalcin ..... (Turkey)

CSP 4.2 Monaural speech separation based on linear regression optimized using gradient descent
Belhedi Wiem, Ben Messaoud Mohamed anouar, Bouzid Aicha ..... (Tunisia)

CSP 4.3 Gemination prediction using DNN for Arabic text-to-speech synthesis .....
Ikbel Hadj Ali, Zied Mnasri, Zied Lachiri ..... (Tunisia)

CSP 4.4 Authors' Writing Styles Based Authorship Identification System Using the Text Representation Vector .....
Nacer Eddine Benzebouchi, Nabiha Azizi, Nacereddine Hammami, Didier Schwab, Mohammed Chiheb Eddine Khelaifia, Monther Aldwairi .. (United Arab Emirates–Saudi Arabia–Algeria–France)

CSP 4.5 Stressed speech recognition using MMFCC and kernel based classification .....
Salsabil Besbes, Zied Lachiri ..... (Tunisia)

CSP 4.6 Short Utterance Speaker Recognition Using Time-Delay Neural Network .....
Muhammet Mesut Toruk, Ramazan Gokay ..... (Turkey)

Room: D-403 **Friday, 14:15-15:55**

Session CSP 5 : Software Defined Radio Network

Chairs : Faouzi Derbel (Germany)
Zeynep Turgut (Turkey)

CSP 5.1 Securing Internet of Things (IoT) Through an Adaptive Framework .....
Umer Farooq, Imran Baig, Najam Ul Hasan .....(Oman)

CSP 5.2 An IOT Based sensing system for remote monitoring of PV panels .....
Mohamed Deriche, Mohammad Raad, Wael Suliman .....(Saudi Arabia)

CSP 5.3 Batch-based Power-controlled Channel Assignment for Improved Throughput in Software-defined Networks .....
Haythem Bany Salameh, Ahmed Musa, Ruba Atoum, Moayad Aloqaily, Rami Halloush, Yaser Jararweh .....(Canada–Jordan–USA)

CSP 5.4 Developing AI Based Scheme for Project Planning by Expert Merging Revit and Primavera Software .....
Karim M Aljebory, Mustafa Issam .....(Iraq)

CSP 5.5 A Survey of IoT Architectural Reference Models .....
Dogukan Aksu, M. Ali Aydin .....(Turkey)

CSP 5.6 An Optimal Set of Features for Multi-Class Heart Beat Abnormality Classification ..
Mohamed Deriche, Saeed Aljabri, Mohammed Al-Akhras, Mohammed Siddiqui, Naziha Deriche .....(United Arab Emirates–Saudi Arabia)

Room: B-203 **Friday, 14:15-15:55**

Session PSE 4 : Electric Machines

Chairs : Mohamed Deriche (Saudi Arabia)
Aysel Ersoy Yılmaz (Turkey)

PSE 4.1 Hybrid Excited Claw-Pole Machines: Comparison between Different Topologies .....
Roua Omri, Amina Ibala, Ahmed Masmoudi .....(Tunisia)

PSE 4.2 Control and safety enhancement of a Wind Energy Conversion System .....
Nouha Bouchiba, Souhir Sallem, Salma Keskes, Mohamed Kamoun .....(Tunisia)

PSE 4.3 Experimental Analysis for enhancement of unbalanced standalone Wind Energy Conversion System .....
Salma Keskes, Souhir Sallem, Nouha Bouchiba, Mohamed Kamoun, Larbi Chrifi-Alaoui, Said Drid .....(Tunisia–Algeria–France)

PSE 4.4 Application of ANN and ANFIS techniques for PSS tuning in a multimachine power system .....
Kahouli Amor, Badr Alshammari, Bilel Dhouib .....(Tunisia–Saudi Arabia)

Room: D-405 **Friday, 14:15-15:55**

Session SAC 5 : Linear & Nonlinear Control

Chairs : Mohamed Ksantini (Tunisia)
Hasan Tiryaki (Turkey)

SAC 5.1 Modelling of Capacitive De-ionization with Activated Carbon Electrodes .....
Syed Adnan Ali, Moustafa Elshafei, Ashraf Seleym .....(Egypt–Saudi Arabia)

SAC 5.2 Globally linearizing control system design for a semi-continuous chemical reactor ....
Amira Abdelkader, Moez Boussada, Koffy Fiaty, Ahmed Said Nouri, Hammouri Hassan (Tunisia–France)

SAC 5.3 A Pheromonal Artificial Bee Colony -pABC- Algorithm for Optimization Problems ..
Dursun Ekmekci .....(Turkey)

SAC 5.4 Sliding mode differentiator-based robust backstepping control of nonlinear uncertain system .....
Fatma Massaoudi, Dorsaf Elleuch, Tarak Damak .....(Tunisia)

SAC 5.5 Steering Algorithm for Nonholonomic Mechanical Systems using Sliding Mode Control

Waseem Abbasi, Fazal urRehman, Ibrahim Shah, Mohd Yaqoob Wani, Wani., Usman Ali Gulzari .....(Pakistan)

Room: D-204 **Friday, 14:15-15:55**

Session SCI 4 : Multi Sensor Systems

Chairs : Olfa Kanoun (Germany)
Ali Boyacı (Turkey)

SCI 4.1 Multimodal Approach for Inattentive Driver Detection .....
Ibrahim Naimi, Saed Mami, Mohammad Sandoukah, Elias Haddad .....(Jordan)

SCI 4.2 Multiple Object Tracking: Case of Aircraft Detection and Tracking .....
Mohamed Ksantini, Ameni Ellouze, François Delmotte, Mohamed Karray ..(Tunisia–France)

SCI 4.3 Implementation of an Emergency Indicating Line Follower and Obstacle Avoiding Robot .....
Prajoona Valsalan, Priyanka Surendran .....(Bahrain–Oman)

SCI 4.4 Muscle Movement Tracking Using Nanocomposite Based Pressure Sensor .....
Bilel Ben Atitallah, Rajarajan Ramalingame, Nabil Derbel, Olfa Kanoun ...(Tunisia–Germany)

SCI 4.5 Evaluation of EMG Signal Time Domain Features for Hand Gesture Distinction .....
Rim Barioul, Sameh Fakhfakh Ghribi, Houda Ben Jmaa Derbel, Olfa Kanoun (Tunisia–Germany)

SCI 4.6 Electronic Motion Capture Glove based on Highly Sensitive Nanocomposite Sensors .
Dhivakar Rajendran, Renato Torres, Zheng Hu, Rajarajan Ramalingame, Ammar Al-Hamry, Olfa Kanoun .....(Germany)

Friday, 15:55 -16:15



Coffee Break

Room: D-204 **Friday, 16:15-18:00**

Session CSP 6 : WSN & MIMO

Chairs : Omar Daoud (Jordan)
Mahmud Öztürk (Turkey)

CSP 6.1 Wireless Sensors Converged Network Enhancement .....
Omar R Daoud, Ahlam Damati .....(Jordan)

CSP 6.2 Capacity Analysis of MIMO Mobile-to-Mobile Communication Links Using Geometry-based Modeling .....
Mohd Yaqoob Wani, Wani., Waseem Abbasi, Muhammad Riaz Riaz .....(Pakistan)

CSP 6.3 High Isolation With Defected Ground Structures For MIMO Elliptical Multi-Antennas
Marwa Daghari, Chafai Abdelhamid, Hadi Sakli .....(Tunisia)

CSP 6.4 High Isolation With Metamaterial Improvement In A Compact UWB MIMO Multi-Antennas .....
Chafai Abdelhamid, Marwa Daghari, Hedi Sakli, Chafaa Hamrouni .....(Tunisia)

CSP 6.5 Asynchronous Time Synchronization Protocol for WSNs .....
Ali A. Al-Shaikhi, Ramadan Abdul-Rashid, Ahmad Masoud .....(Saudi Arabia)

CSP 6.6 On the Investigation of Bandwidth Allocation for Short-Range and Long-Range Heterogeneous Wireless Networks .....
Can Kazdag, Özgür Alaca, Ali Rıza Ekti, Serhan Yarkan .....(Turkey)

Room: D-405 **Friday, 16:15-18:00**

Session CSP 7 : Signal Processing Applications

Chairs : Mohamed Deriche (Saudi Arabia)
Zeynep Turgut (Turkey)

CSP 7.1 Wireless Monitoring of Respiration and Heart Rates Using Software-Defined-Radio ..
Mojtaba Al-Shams, Ali Alwahedi, Mohammed Aieash Albettar, Saleh A. Alawsh, Ali H Muqaibel .....(Saudi Arabia)

CSP 7.2 Green Energy-Powered Allocations for OFDM-based Cognitive Radio Networks .....
Raouia Masmoudi Ghodhbane .....(France)

CSP 7.3 Iterative Signal Detection Based on MSD-CG Method for Uplink Massive MIMO Systems .....
Zaid Albataineh .....(USA)

CSP 7.4 Applications of Artificial Intelligence and Machine Learning in the Area of SDN and NFV: A Survey .....
Anteneh A. Gebremariam, Muhammad Usman, Marwa Qaraqe .....(Qatar–Italy)

CSP 7.5 Applications of Deep Learning and Big Data Technologies .....
Şükrü Okul, Dogukan Aksu, M. Ali Aydin .....(Turkey)

Room: D-403 **Friday, 16:15-18:00**

Session PSE 5 : Power Electronics in Renewable Energy Systems

Chairs : Nabil Derbel (Tunisia)
Bilal Wajid (Pakistan)

PSE 5.1 Maximum Power Point Tracking of Photovoltaic Systems Using Innovated Genetic Algorithm Methods .....
Nadia Drir, Linda Barazane, Loudini Malik ..... (Algeria)

PSE 5.2 New Control Method for Electric Cars .....
Saber Hadj Abdallah, Souhir Tounsi ..... (Tunisia)

PSE 5.3 MPPT Control Strategies for Photovoltaic Applications: Algorithms and Comparative Analysis .....
Rabeb Abid, Sameh EL mahjoub, Ferdaous Masmoudi Loukil, Nabil Derbel . (Tunisia)

PSE 5.4 Fuzzy Logic Control of Circulating Current between Parallel Interleaved Converter Connected to Grid .....
Ines Mehouachi, Mohamed Abbes, Souad Chebbi ..... (Tunisia)

PSE 5.5 A New soft switching algorithm for power control in Three phase grid connected PV plant .....
Mohamed Kamoun, Souhir Sallem, Amal Marrekchi ..... (Tunisia)

Room: B-203 **Friday, 16:15-18:00**

Session SAC 6 : Robust Control

Chairs : Mohamed Naceur Abdelkrim (Tunisia)
Mustafa Alshawaqfeh (Jordan)

SAC 6.1 Novel Event Triggering of Networked Control Systems under Periodic Attacks .....
MagdiSadek Mahmoud, Bilal Karaki ..... (Saudi Arabia)

SAC 6.2 Robust H_∞ Networked Control of Microgrid Systems .....
Abdulwahid A. Al-Saif ..... (Saudi Arabia)

SAC 6.3 LQR control of a Grid Side Converter of a DFIG based WECS: LMI approach based on Lyapunov condition .....
Sana Salhi, Salah Salhi ..... (Tunisia)

SAC 6.4 Remote Supervision for Uncertain NetworkControlled Systems in Set-membership Framework .....
Afef Najjar, Messaoud Amairi ..... (Tunisia)

SAC 6.5 Robust Active Control for Full-Car Suspension System .....
Yazan Al-Rawashdeh, Sami El Ferik, Mohammad A. Abido ..... (Saudi Arabia)

Room: B-404 **Friday, 16:15-18:00**

Session SCI 5 : Electrochemical Sensors

Chairs : Najla Fourati (Germany)
Serhan Yarkan (Turkey)

SCI 5.1 Graphite Screen Printed Electrodes Functionalized with AuNPs-PEI for Nitrite Detection
Malak Talbi, Ammar Al-Hamry, Priscila Rios Teixeira, Ayda Bouhamed, Sawsen Azzouzi, Leonardo Paterno, Mounir Ben Ali, Olfa Kanoun (Tunisia–Brazil–Germany)

SCI 5.2 Electrochemical detection of nitrite using screen printed graphite electrode modified by ION/rGO
Amira Ghezal, Ammar Al-Hamry, Ayda Bouhamed, Sawsen Azzouzi, Leonardo Paterno, Mounir Ben Ali, Olfa Kanoun (Tunisia–Brazil–Germany)

SCI 5.3 Investigation of Laser Induced Graphene Electrodes Modified by MWNT/AuNPs for Detection of Nitrite
Salem Nasraoui, Ammar Al-Hamry, Adiraju Anurag, Priscila Rios Teixeira, Leonardo Paterno, Mounir Ben Ali, Olfa Kanoun, Sami Ameur (Tunisia–Brazil–Germany)

SCI 5.4 Detection of Dimethoate Pesticide using Layer by Layer Deposition of PDAC/GO on Ag electrode
Ammar Al-Hamry, Olfa Kanoun, Raul Rodriguez, Tamara Lazarevic-Pašti, Leonardo Paterno, Igor Pašti, Evgeniya Sheremet, Tharun Ega, Danica Bajuk-Bogdanović (Brazil–Serbia–Germany–Russia)

SCI 5.5 Thermal Analysis of a Microsensor based on GO/Polyvinyl Alcohol for Humidity Measurements
Ammar Al-Hamry, Carlo Trigona, Salvatore Baglio, Olfa Kanoun (Italy–Germany)

Saturday , 23 of March, 2019

D-303 **Saturday, 09:30-10:30**

Keynote Lecture KL-SAC 1:

Chairs : Mohamed Ksantini (Tunisia)
Zeynep Turgut (Turkey)

KL-SAC 1 Observation & Control of Hybrid Dynamical systems .....
Mohamed Djemai ..... (France)

D-304 **Saturday, 09:30-10:30**

Keynote Lecture KL-PSE 1:

Chairs : Ahmed Hafaif (Algeria)
Yasin Özçelep (Turkey)

KL-PSE 1 Sustainable Mobility: State of the Art .....
Ahmed Masmoudi ..... (Tunisia)

D-403 **Saturday, 09:30-10:30**

Keynote Lecture KL-CSP 1:

Chairs : Faouzi Derbel (Denmark)
Ali Rıza Ekti (Turkey)

KL-CSP 1 .....
..... ()

D-405 **Saturday, 09:30-10:30**

Keynote Lecture KL-SCI 1:

Chairs : Olfa Kanoun (Germany)
Mehmet Deniz Demirci (Turkey)

KL-SCI 1 MIP/IIP based electrochemical sensors: great advantages and real limitations .....
Najla Fourati ..... (France)

Saturday, 10:30-11:00

Coffee Break



Room: D-303 **Saturday, 11:00-13:00**

Session CSP 8 : Communication

Chairs : Faouzi Derbel (Germany)
Mehmet Deniz Demirci (Turkey)

CSP 8.1 Real-Time Data Transmission over PSTNs on Physical Layer .....
Sezer Can Tokgoz, Serhan Yarkan, Scott Miller, Khalid A. Qaraqe ..(Turkey–Qatar–USA)

CSP 8.2 Performance evaluation of RPL in the context of node mobility .....
Ibtissem Zaatouri, Françoise Sailhan, Stephane Rovedakis, Awatef Ben Fradj Guiloufi, Nouha Alyaoui, Abdennaceur Kachouri ..... (Tunisia–France)

CSP 8.3 New Approach for Simultaneously Estimating Output SNR and Angle of Arrival (AOA)
Bassim Sayed Mohammed, Dalya Khalid Hassan Khalid .....(Iraq)

CSP 8.4 On the Chaos Synchronization in CBSC Systems over Realistic Wireless Channels ...
Walid A. Al-Hussaibi, Jaafar Alsmael, Mustafa Turkmen ..... (Turkey–Iraq)

CSP 8.5 Energy-Efficient Resource Allocation for NOMA Systems .....
Naziha Glei, Belgacem Chibani .....(Tunisia)

CSP 8.6 The effect of Electronic Jammers on GPS Signals .....
Esat Elezi, Göksel Çankaya, Ali Boyacı, Serhan Yarkan .....(Turkey)

Room: D-304 **Saturday, 11:00-13:00**

Session CSP 9 : Hardware

Chairs : Mohamed Abid (Tunisia)
Yasin Özçelep (Turkey)

CSP 9.1 FPGA implementation of simplified Fuzzy LRU replacement algorithm .....
Ali Titinchi, Naser Halasa .....(Oman–Jordan)

CSP 9.2 Parallel implementation of HEVC encoder on multicore ARM-based platform .....
Nejmeddine Bahri, Mohamed Maazouz, Randa Khemiri, Nouri Masmoudi .(Tunisia–Algeria)

CSP 9.3 A Hardware-Efficient Parallel Architecture for HEVC Deblocking Filter .....
Lella Aicha Ayadi, Wided Boubakri, Loukil Hassen, Nouri Massmoudi ..... (Tunisia)

CSP 9.4 Compact 5T2M ternary content addressable memory cell .....
Sadegh Rouhi, Sattar Mirzakuchaki .....(Iran)

CSP 9.5 Exploiting Machine Learning Applications for Smart Grids .....
Kadir Gunel, Ali Rıza Ekti .....(Turkey)

CSP 9.6 Performance Evaluation of White LED-based OFDM-VLC Systems with Blue Filters: Experimental Study .....
Sezer Can Tokgoz, Noha Anous, Serhan Yarkan, Ali Boyacı, Khalid A. Qaraqe (Turkey–Qatar–USA)

Room: D-405 **Saturday, 11:00-13:00**

Session PSE 6 : Renewable energy systems II

Chairs : Souhir Sallem (Tunisia)
Serpil Üstebay (Turkey)

PSE 6.1 Photovoltaic power forecasting through temperature and solar radiation estimation ..
Rim Ben Ammar, Mohsen Ben Ammar, Abdelmajid Oualha .....(Tunisia)

PSE 6.2 PI and PR Current Controllers of Single Phase Grid: Analysis, Comparaison and Testing .....
Sabri Rhili, Jihed Hmad, Trabelsi Hafedh .....(Tunisia)

PSE 6.3 Wind Plant Control Under Grid Code Requirements .....
Mohamed Elleuch, Khadija Ben Kilani, Imen Karray .....(Tunisia)

PSE 6.4 Impacts of Wind Power Generation on Static Security of Power System .....
Hajer Jmii, Asma Meddeb, Souad Chebbi .....(Tunisia)

PSE 6.5 Comparison Between Fluctuant And Constant Power Integration In The Electrical Network .....
Nahla Ben Halima, Sahar Ammous, Abdelmajid Oualha .....(Tunisia)

Room: D-404 **Saturday, 11:00-13:00**

Session SAC 7 : Robotics & Automation

Chairs : Abdul-Wahid Saif (Saudi Arabia)
Özgür Can Turna (Turkey)

SAC 7.1 Robust Adaptive Sensorless Force and Parameters Estimation for Nonholonomic Mobile Manipulators .....
Mohamed Boukattaya, Tarak Damak .....(Tunisia)

SAC 7.2 Method of gap combined with fuzzy logic controller designed for mobile robot navigation

Dorra Ayedi, Maïssa Boujelben, Chokri Rekik .....(Tunisia

SAC 7.3 Genetic Algorithm for Drones Multi-objective Traveling Salesman Problem .....
Manel Hentati, Raida Hentati .....(Tunisia)

SAC 7.4 Integration of Camera and Inertial Measurement Unit for Entire Human Robot Interaction Using Machine Learning Algorithm .....
Mohamad Bdiwi, Matthias Putz, Azam Haghighi .....(Germany)

SAC 7.5 Robust Adaptive Feedback Linearization Control of Human Exoskeletons .....
Racem Jribi, Boutheina Maalej, Nabil Derbel .....(Tunisia)

Room: D-403 **Saturday, 11:00-13:00**

Session SCI 6 : Sensor Systems 2

Chairs : Mohammed Baniyounis (Jordan)
Nabil Derbel (Tunisia)

SCI 6.1 Investigation of the inductive link parameter variations on the WPT system efficiency
Yosra Ben Fadhel, Khaoula Yeferni, Fatma Doub, Salem Rahmani, Kamal Al-Haddad (Tunisia–Canada)

SCI 6.2 Multi-Parallel Sending Coils for Movable Receivers in Inductive Charging Systems ..
Ghada Bouattour, Houda Ben Jmaa Derbel, Olfa Kanoun ..... (Tunisia–Germany)

SCI 6.3 Street Lighting Energy-Saving System .....
Adnan M. Al-Smadi, Salam Salah, Areen Al-Moomani, Majd Al-Bataineh .. (Jordan)

SCI 6.4 Hardwired solutions for a pipelined RISC processor data hazards .....
Hajer Najjar, Riad Bourguiba, Jaouhar Mouine .....(Tunisia–Saudi Arabia)

SCI 6.5 Water Pipeline Monitoring and Leak Detection using soil moisture Sensors: IoT based solution .....
Manel Elleuchi, Raouia Khelif, Mohamed Kharrat, Mohammed Aseeri, Abdulfattah Obeid, Mohamed Abid .....(Tunisia–Saudi Arabia)

Saturday, 13:00-14:00



Lunch

Saturday, 14:00-15:00



Closure & Conference Gala

Saturday, 18:00-20:00

Networking and Free Activities

Sunday , 24 of March, 2019

Sunday, 09:30-15:00

Networking and Free Activities