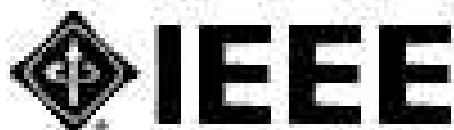




Program
of the Multi-Conference on
Systems, Signals & Devices

March 22-25, 2021

Monastir, Tunisia



18th International Multi-Conference on Systems, Signals and Devices (SSD'21)

March 22–25, 2021, Monastir, Tunisia

Organized by:

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, Dahrán, (Saudi Arabia).
University of Ziane Achour, Djelfa, (Algeria).

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Preface

Following the success of SSD'01 held in Hammamet-Tunisia, the eighteenth International Multi-Conference on Systems, Signals and Devices - SSD'21 to be held in Monastir, Tunisia, from 22nd to the 25th of March 2021. The conference program consists of 4 plenary session, 12 Keynote Lectures and 34 oral sessions. SSD'21 multi-conference is organized to include 4 conferences covering different fundamental and applied aspects:

1. "Int. Conf. on Systems, Automation & Control" (SAC)
2. "Int. Conf. on Conference on Power Systems & Smart Energies" (PSE)
3. "Int. Conf. on Communication, Signal Processing & Information Technology" (CSP)
4. "Int. Conf. on Sensors, Circuits and Instrumentation Systems" (SCI)

SSD'21 secretariat has received 352 submissions from 45 countries: Algeria, Bahrain, Bangladesh, Belgium, Brazil, Cameroon, Canada, China, Colombia, Denmark, Egypt, Estonia, Finland, France, Germany, Iran, Iraq, Italy, Jordan, Kuwait, Lebanon, Latvia, Libya, Malaysia, Mexico Morocco, Netherlands, Nigeria, Oman, Palestine, Portugal, Qatar, Romania, Saudi Arabia, Slovakia, South Africa, Spain, Sweden, Switzerland, Tunisia, Turkey, United Arab Emirates, United Kingdom (Great Britain), USA, Vietnam.

Each paper has been reviewed by at least two reviewers of the program committee which consisted of more than 100 scientists from more than 30 countries. Only 236 papers have been accepted.

We would like to express our deep gratitude to all chairs and members of the program committee for their substantial reviews. Special thanks are due to all members of the organizing committees for their determination to make this event a promising success.

Finally, we would like to extend our deep gratitude to all those who have contributed to the financial support of SSD'21.

Professors Jawhar Ghommam, Olfa Kanoun and Kasim Mousa Al-Aubidy

Monastir, Tunisia

March, 2021

General Informations

Location

SSD Multiconference has been held in Monastir, Tunisia. Monastir occupies a privileged geographical position between the center and the south of Tunisia, with a wide opening on the Mediterranean. Monastir is surrounded by Sousse to the north, Mahdia to the south, Kairouan to the west and the mediterranea see to the east.

Monastir is about 170 km south of Tunis, 20 km south of Sousse, 40 km north of Mahdia, 140 km north of Sfax, 70 km east of Kairouan.

With its golden beaches and sapphire blue sea, its medieval monuments and its charming marina, Monastir offers one of the most attractive faces of Tunisia. An ideal destination to sun yourself by the sea, but also to visit a fascinating region: from Sousse to Kairouan, from El-Djem to Mahdia, you will travel through time. In the countryside, you will get to know the way of life of the Bedouin villages. And along the coast, the fishing ports will enchant you.

Explore the beautiful walk along the seafront: the marina, the esplanade of the Ribat, the cemetery dominated by the narrow minarets and the mausoleum of Bourguiba. Climb the 90 steep steps to the watchtower of the Ribat for a panoramic view of the city and surrounding beaches to take your breath away. Admire the old golden stones of its towers, its battlements and of the neighbouring mosque. Then delve into the cobbled streets of the medina. Comb through the souks where the stalls are full of perfumed spices and beautiful crafts: leather bags, blankets, woven baskets, etc., Pay a visit to the lively quays and the fishing harbour. Next, let yourself be seduced by Monastir's surroundings. The city is surrounded by farming villages and orchards, while the coastal road follows a string of charming coves and beaches.

Monastir offers an abundance of fresh produce which is prepared in a variety of ways. You may get the chance to taste a local speciality, couscous with little charkaw fish: seasoned with salt and pepper, they are steamed with the couscous, then garnish the dish with bell peppers and squash. In Monastir, all the produce from the sea is showcased, such as grilled seabass and seabream, fried or stewed octopus or squid etc. The region is famous for its vegetable crops: enjoy the springtime stew marqet khodra, lamb simmered with broad beans and seasonal vegetables. In the medina, close to the beaches and on the docks of the marina, you will find all manner of restaurants to cater to your every gastronomical taste.

All along the fine sandy beaches of Skanes, the hotels are abundant. The available choice goes from typical hotel stay to all inclusive vacation. Sports, entertainment, international cuisine etc., these establishments are perfect for summer holidays as a family or for long stays in the winter sun. In Monastir's medina, a stone's throw from the town centre, you have the option of an aparthotel: this choice allows you the independence of staying in a private apartment combined with the services of a hotel establishment.

The name of Monastir originates from a monastery in the Byzantine era. The spiritual purpose of the site continued, as in the following centuries, a community of Muslim aesthetics settled there. The city developed around its Ribat, a small fort constructed in the 8th century to protect this community. The building was later expanded by the sultans of Tunis then again by the

Ottomans. Its primitive seed is now a museum: visitors can see rare artifacts, such as a magnificent astrolabe made in Cordoba in the 10th century. Monastir's second famous monument is a mausoleum with golden domes, that of Habib Bourguiba. Father of Tunisian independence, born in Monastir, Bourguiba profoundly affected modern Tunisia thanks to his policies of education, social development and female liberation. It is possible to visit his mausoleum-museum as well as his former summer residence, a futuristic palace from the 1960s.

One of the most extraordinary fortresses of the Maghrebian coast, the Ribat of Monastir is a labyrinth of courtyards, of rounded and square towers and crenellated walls. Originally, however, it was nothing but a small fort like all the others that existed along the Tunisian coast; the one in Sousse still retains its original form: These buildings, the ribats, served as a place for spiritual retreat for the Sufi aesthetics. Their guardians prayed, received students and thinkers, and protected the population in the case of an invasion attempt. They played a useful role in surveillance; from the high tower, it was possible to send signals with light to warn of danger coming from the sea. The city of Monastir enjoyed great religious prestige: it was "the gateway to paradise" according to one proverb. In addition, its Ribat reached considerable dimensions over the course of the years, until it became the monument we flock to today with pleasure.

Monastir is served by Habib Bourguiba international airport located just a few minutes from the hotels. A regional train line allows for easy access to Sousse and Mahdia passing through the villages of Moknine (pottery workshops) and Lemta (archaeological sites). It is also possible to get around by louage, and in town, by taxi.

The Host Country Tunisia

Official Language:

The official language in Tunisia is Arabic. The second language is French and is spoken by almost all people. The third language, which is taught at school until baccalaureate is English. Note that the official language of the SSD is English.

Currency Exchange:

The exchange rates to and from € and US\$ are approximately:

1 TND \simeq 0.31 €	1 € \simeq 3.27 TND
1 TND \simeq 0.37 US\$	1 US\$ \simeq 2.7 TND



Conference Web-Site

► www.ssd-conf.org

General Chairs

Jawhar Ghommam (Oman), Olfa Kanoun (Germany)
and Kasim Mousa Al-Aubidy (Jordan)

General Co-Chairs

Mohamed Deriche (Saudi Arabia), Abdul-Wahid Al-Saif (Saudi Arabia), Faouzi Derbel
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Kanaan, Hadi Y. (Lebanon)	

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Jallouli, Rim	Kallel, Amin
Maalej, Boutheina	Medhaffar, Hanene
Naifar, Omar	Zaway, Intissar

Conference on Systems, Automation & Control

Conference Chairs:

Ahmed Said Nouri (Tunisia)
Mohamed Ksantini (Tunisia)
Mujahed Al-Dhaifallah (Saudi Arabia)

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Ben Ali, Abderraouf (France)	Farza, Mondher (France)	Isho, Ivan (Iraq)
Ben Amar, Faiz (France)	Gauthier, Guy (Canada)	

Topics:

- Intelligent control
 - Fuzzy systems & fuzzy control
 - Neuro-fuzzy systems
 - Learning processes in control
 - Neural Networks & Neural control
 - Machine learning & artificial intelligence in control
- Complex systems
 - Analysis & control of large-scale autonomous networks
 - Control & dynamics of complex network systems
 - Agent-based control systems
 - Discrete event systems
 - Hierarchical & man-machine systems
 - Infinite dimension systems
 - Biological & economical models & control
 - Biology-based and behavioral control
- Linear & nonlinear system analysis
 - Advances in linear systems
 - Nonlinear systems
 - System identification
 - Hybrid systems
- Control approaches
 - Adaptive control
 - Distributed control
 - Geometric control
 - Optimal & stochastic control
 - Predictive control
 - Robust control
 - Sliding mode control
 - System optimization
 - Fractional order systems
- Faulty systems
 - Fault detection, diagnosis & pronostics
 - Fault tolerant control
 - Machine learning for fault detection & diagnosis
- Robotics & automation
 - Robotics
 - Traffic control
 - Unmanned aerial vehicles
 - Mechatronics

Conference on Power Systems & Smart Energies

Conference Chairs:

Hafedh Trabelsi (Tunisia)
Abdallah Kouzou (Algeria)

Scientific Program Committee:

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Ayob, Shahrin bin Md. (Malaysia)	Ghodbane, Fathi (Tunisia)	Masmoudi, Ahmed (Tunisia)
Babaie, Ebrahim (Iran)	Guermazi, Abdessattar (Tunisia)	Mekhilef, Saad (Malaysia)
Bahi, Tahar (Algeria)	Guzinski, Jaroslaw (Poland)	Mimouni, Mohamed Faouzi (Tunisia)
Belhadj, Chokri (KSA)	Hadj Abdallah, Hsan (Tunisia)	Morawiec, Marcin (Poland)
Belhaj Ahmed, Chokri (Saudi Arabia)	Hafai, Ahmed (Algeria)	Néji, Rafik (Tunisia)
Belhaj Slama, Jelel (Tunisia)	Hafaifa, Ahmed (Algeria)	Obaidat, Firas (Jordan)
Belkhodja Slama, Ilhem (Tunisia)	Iqbal, Atif (Qatar)	Olabi, Abdul Ghani (UAE)
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Betka, Achour (Algeria)	Kannan, Hadi (Lebanon)	Romero-Cadaval, Enrique (Spain)
Bettayeb, Maamar (UAE)	Khalid, Muhammad (Saudi Arabia)	Sbita, Lassaad (Tunisia)
Boukettaya, Ghada (Tunisia)	Khan, Mohammed Arif (Fiji)	Sertac, Bayhan (Qatar)
Boussak, Mohamed (France)	Khan, Rizwan (India)	Soufi, Youcef (Algeria)
Braham, Ahmed (Tunisia)	Kolodziejek, Piotr (Poland)	Toual, Belgacem (Algeria)
Bruno François (France)	Komurcugil, Hasan (Turkey)	Trabelsi, Hafedh (Tunisia)
Cardoso, Antonio J. Marques (Portugal)	Koubaa, Yassine (Tunisia)	Vinnikov, Dimitri (Estonia)
Chebbi, Souad (Tunisia)	Kouzou, Abdellah (Algeria)	Williamson, Sheldon (Canada)
Dhaouadi, Rached (UAE)	Krichen, Lotfi (Tunisia)	Yangui, Abderrazak (Tunisia)
Dhifaoui, Rachid (Tunisia)	Kunicina, Nadezhda (Latvia)	Yusuff, Adedayo (South Africa)
Diallo, Demba (France)	Laaroussi, Kouider (Algeria)	Khedher, Adel (Tunisia)
Dris, Said (Algeria)	Lakhdar, Mokrani (Algeria)	Mekhaldi, Abdelouahab (Algeria)
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El-Aroudi, Abdellali (Spain)	Lewicki, Arkadiusz (Poland)	Mansouri, Ali (Tunisia)

Topics:

- Electric Machines
 - Modeling & design
 - Machine control
 - Variable speed drives
 - Special machines
- Power electronics
 - Converters
 - Multilevel inverters
 - Electromagnetic compatibility
 - Facts
 - Semiconductor devices
- Power Systems
 - Distributed power systems
 - Smart grid & security
 - Micro-Grids & virtual power plants
 - Transformers
 - Power quality
 - Measurements & protection
 - DC micro-grid
 - Reconfiguration & power flow solutions
 - Storage systems
- Renewable energy systems
 - Photovoltaic systems
 - Concentrated solar plants
 - Wind energy
 - Tide & wind energy
 - Smart grids & distribution networks
 - Grid connected power electronics converters
 - Hybrid and storage systems
 - Fuel cells
- Automotive power systems
 - Hybrid electric vehicle
 - Electric vehicle and safety
 - Storage systems in EV
 - Flywheel Energy
- Monitoring and diagnosis
 - Variable speed drives and monitoring
 - Fault detection and diagnosis
 - Predictive diagnosis
 - Tolerent control
 - Pronostics

Conference on Communication, Signal Processing & Information Technology

Conference Chairs:

Najoua Essoukri Ben Amara (Tunisia)
Ines Kammoun Jemal (Tunisia)
Omar Daoud (Jordan)

Scientific Program Committee:

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Al-Aubidy, Kasim M. (Jordan)	Daoud, Omar (Jordan)	Mahir, Rami A. (Jordan)
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Baccour, Nouha (Tunisia)	Hamrouni, Kamel (Tunisia)	Sellami, Dorra (Tunisia)
Ben Amar, Chokri (Tunisia)	Ibnkahla, Mohamed (Canada)	Sellami, Mokhtar (Algeria)
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Bozed, Kenz Ahmed (Libya)	Kheriji, Sabrina (Germany)	Zerguine, Azzedine (Saudi Arabia)
Chaib, Noureddine (Algeria)	Khelifa, Nawres (Tunisia)	Zidouri, Abdelmalek (Saudi Arabia)

Topics:

- Signal, image & video processing:
 - Theory & methods
 - Speech, audio & acoustic
 - Image, video & multidimensional signal processing
 - Biomedical Signal & Image Processing
- Signal processing for IoT
 - Wireless sensors networks
 - Smart systems
 - E-health & health informatics
 - Smart cities
 - Energy efficiency & sustainability in the IoT
 - IoT security
- Signal processing for communications
 - Optical systems
 - Radar & sonar systems
 - Wireless communications
 - Design & implementation
- Emerging Technology Applications
 - Big data analytics
 - Cloud computing
 - Cyber security
 - Machine learning models
 - Artificial intelligence technology
 - Distributed & real time systems
 - Augmented & virtual reality
 - Geographical information systems
- Engineering Education
 - E-Learning & blended learning
 - Remotes laboratories
 - Multidisciplinary education
 - Undergraduate research
 - Strategic planning
 - Curriculum of engineering studies
 - Engineering design programs
 - Accreditation of engineering programs

Conference on Sensors, Circuits & Instrumentation Systems

Conference Chairs:

Imed Ben Dhaou (Saudi Arabia)

Brahim Mezghani (Tunisia)

Mounir Ben Ali (Tunisia)

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Besbes, Kamel (Tunisia)	Groza, Voicu (Canada)	Reindl, Leonhard (Germany)
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Dridi, Cherif (Tunisia)	Malak, Jihen (Tunisia)	Zerrouki, Chouki (France)
Ebaid , Munzer (Jordan)	Masmoudi, Mohamed (Tunisia)	

Topics:

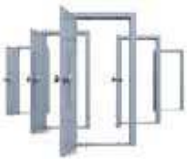
- Physical and chemical sensors
 - Mechanical and flow sensors
 - Position and Radar sensors
 - Temperature and humidity sensors
 - Electrochemical and biomedical sensors
 - Ultrasonic and acoustic sensors
 - Magnetic and electromagnetic field sensors
 - Optical and photonic sensors
 - Surface acoustic wave sensors
- Measurement methods and metrology
 - Spectroscopy methods and systems
 - Optical methods and systems
 - Impedance spectroscopy
 - Metrology and measurement uncertainty
- Sensors and circuits technology
 - MEMS and NEMS technology
 - Molecular electronics
 - Polymer sensors, actuators and electronics
 - Actuators and actuator technologies
 - Optoelectronic devices
 - Microfluidic and lab-on-chip devices
 - Additive manufacturing
 - Sensor testing and evaluation
 - Aging, reliability, stability and EMC
- Sensor and measurement systems
 - Signal conditioning and interface electronics
 - Conversion and digitalization
 - Data acquisition and distributed measurements
 - Embedded systems
 - Sensor arrays and matrices
 - Multi sensor system
 - Sensor signal processing and modeling
 - Multi sensor data fusion
 - Design & implementation
- Electronic systems and technologies
 - Design, modeling and simulation
 - Custom and semi-custom circuits
 - Packaging and reliability
 - Materials, devices and interconnects
 - Analog and mixed circuits design
 - Low-voltage, low-power VLSI design
 - Resonators and oscillators
 - Sensor communication circuits
 - Circuit test and device characterization
- Sensor Systems for IoT
 - Low-power sensor networks
 - Sensor telemetry and monitoring
 - Energy harvesting and conversion
 - Energy management for low power systems
 - Energy saving strategies
 - Analog and digital low-power electronics
 - Soft sensors
- Sensor and Instrumentation Applications
 - Industry and robotics
 - Medicine and health
 - Agriculture and environment
 - Mobility and automotive
 - Smart grids
 - Smart buildings
 - Smart cities
 - Safety and security

SSD'21: Multi-Conference Program

Date Time	Monday, March 22	Tuesday, March 23	Wednesday, March 24	Thursday, March 25
08:30	Opening	Keynote Sessions 1	Keynote Sessions 2	Plenary Session 4
09:15	Plenary Session 1	Parallel Sessions SAC3, PSE3, CSP4, CSP5, SCI3	Parallel Sessions SAC5, PSE5, CSP7, SCI5	Parallel Sessions SAC7, PSE8, CSP9, SCI7
10:15	Break			
10:30	Parallel Sessions SAC1, PSE1, CSP1, CSP2, SCI1	Break	Break	Break
11:15		Parallel Sessions SAC4, PSE4, CSP6, SCI4	Parallel Sessions SAC6, PSE6, PSE7, CSP8, SCI6	Parallel Sessions SAC8, PSE9, CSP10, SCI8
11:30				
12:30	Break	Break	Break	Closure
13:00	Parallel Sessions SAC2, PSE2, CSP3, SCI2			
13:30	Plenary Session 2	PhD Student Contest	Undergraduate Student Competition	
14:30	Workshop			
15:30	SSD Meeting			
17:00				
18:00				

Monday, 22 of March, 2021

Link: <https://meet.google.com/knk-dbrh-qpo> Monday, 8h30–9h15




Official Opening

Link: <https://meet.google.com/knk-dbrh-qpo> Monday, 9h15–10h15

Plenary Session 1:
Chairs : Olfa Kanoun (Germany)
Brahim Mezghani (Tunisia)

PL-1 The promise of deep learning in multimodality medical image analysis
Habib Zaidi (Switzerland)



Monday, 10h15–10h30

Break

Link: <https://meet.google.com/duc-vthx-zrp> Monday, 10h30–12h30

Session SAC 1 : Robotics I
Chairs : Yassine Bouteraa (Saudi Arabia)
Hanene Medhaffar (Tunisia)

SAC 1.1 Stability study and robustness analysis of an exoskeleton–upper limb system ..
Sana Bembli; Nahla Khraief Haddad and Safya Belghith (Tunisia)

SAC 1.2 Using Multiple Adaptive Neuro-Fuzzy Inference System to Solve Inverse Kine-
matics of Scara Robot
Mohamad Reda Abulkarim Refaai (Saudi Arabia)

SAC 1.3 Further Analysis of the Passive Walking Gaits of the Compass Biped Robot:
Bifurcations and Chaos
Essia Added; Hassène Gritli and Safya Belghith (Tunisia)

SAC 1.4 An efficient MPC controller for the rehabilitation of an actuated knee joint or-
thosis
Hmida Hmaied; Sami Hafsi and Faouzi Bouani (Tunisia)

SAC 1.5 Control of the Compass-Gait Walker Using an Enhanced Poincaré Map and via
LMI-Based Optimization
Wafa Znegui; Hassène Gritli and Safya Belghith (Tunisia)

SAC 1.6 Modeling and Analysis of the Dynamic Walking of a Biped Robot with Knees .
Essia Added; Hassène Gritli and Safya Belghith (Tunisia)

SAC 1.7 Inverted Pendulum System Disturbance and Uncertainty Effects Reduction
*Nagy Osman; Raouf Fareh; Tha’er Omar Sweidan, Sr; Haris M. Khalid and
Jawhar Ghommam* (UAE–Oman)

SAC 1.8 Intelligent Robot Powered by Solar Energy
Abdulwahid A. Saif; Mujahed Aldhaifallah; Turki Bin Muhaya and Omer Majeed
..... (Saudi Arabia)

Session SCI 1 : Special Session on Energy Harvesting Technologies & Industrial Internet of Things

Chairs : Sonia Bradai (Germany)
Slim Naifar (Germany)

- SCI 1.1 Upcycling Emperor Fish Scales For Biocompatible Piezoelectric Energy Harvesting
Rajarajan Ramalingame; Sanjeev Vishal Kota and Olfa Kanoun (Germany)
- SCI 1.2 A Completely Autonomous TEG-Based Node for Thermal Gradient Measurements
Carlo Trigona; Roberto La Rosa and Marco Privitera (Italy)
- SCI 1.3 Arched beam based energy harvester using electrostatic transduction for general in-plane excitations
Mohamed Amin Ben Hassana; Hatem Samaali; Hassen M. Ouakad and Fehmi Najjar (Tunisia–Oman)
- SCI 1.4 Investigation of the Controllability of Inductive Power Transmission Systems based on Flexible Coils
Ghada Bouattour; Taoufik Mhammedi; Nourdin Yaakoubi; Abdullah Adawi and Olfa Kanoun (Tunisia–France–Jordan–Germany)
- SCI 1.5 Performance Analysis of Low Noise Amplifier Based on BJT for Power Aware Wake-Up Receiver Nodes
Sarah Ouerghemmi; Ilef Ketata; Saloua Sahnoun and Faouzi Derbel (Germany–Tunisia)
- SCI 1.6 AC-DC Single Phase Rectifiers for Nanocomposite based Flexible Piezoelectric Energy Harvesters
Meriam Ben Ammar; Ghada Bouattour; Ayda Bouhamed; Salwa Sahnoun; Ahmed Fakhfakh and Olfa Kanoun (Germany–Tunisia)
- SCI 1.7 Simulation of Wireless Sensor Nodes based on Wake-Up Receivers
Amina Whichi; Maximilian Weber; Ilef Ketata; Salwa Sahnoun and Faouzi Derbel (Germany–Tunisia)
- SCI 1.8 Design of a Wireless Sensor Node based on MSP430FR5969 for Environment Monitoring Applications
Mohammad Hossein Tarokh; Dhouha El Houssaini; Christian Viehweger and Olfa Kanoun (Germany–Tunisia)

Session PSE 1 : Diagnosis

Chairs : Hafedh Trabelsi (Tunisia)
Hamed Mashinchi Maheri (Estonia)

- PSE 1.1 A Hybrid fault diagnosis approach for PV generators based on I-V and P-V characteristics analysis
Noureddaher Zaidi; Adel Kheder and Mohamed Jemli (Tunisia)
- PSE 1.2 Enhanced RF for Fault Detection and Diagnosis of Uncertain PV systems
Khaled Dhibi; Radhia Fezai; Majdi Mansouri; Kais Bouzrara; Hazem N Nounou and Mohamed Nounou (Tunisia–Qatar)

<https://meet.google.com/obs-vrkr-dek>

Monday, 10h30–12h30

- PSE 1.3 Diagnosis and Detection of Rotor Bars Faults in Induction Motor Using HT and DWT Techniques
Wissam Dehina; Mohamed Boumechraz and Frederic Kratz (Algeria–France)
- PSE 1.4 Multi-band Analysis for Enhancing Multiple Combined Fault Diagnosis
Mohamed Ali Hmida; Firas Ben Abid and Ahmed Braham (Tunisia)
- PSE 1.5 A Comparative study of Graphical tools for the Fault Monitoring using HBG and DBH Formalisms
Dhaou Garai; Rafika El Harabi and Faouzi Bacha (Tunisia)
- PSE 1.6 Sensors faults diagnosis of a wind system
Aicha Abid; Mouna Ben Hamed and Lassaad Sbita (Tunisia)
- PSE 1.7 Principal Component Analysis for Fault detection and isolation in a DC-DC buck converter
Cheikhna Mahfoud Ahmed Taleb; Othman Nasri; Hajji Omessad; Jaleddine Ben Hadj Slama and Mamoudou Ndongo (Tunisia–Mauritania)
- PSE 1.8 Sag Monitoring of Overhead Power Lines based on Image Processing
Achref Abed; Martin Glass; Hafedh Trabelsi and Faouzi Derbel
..... (Germany–Tunisia)

Link: <https://meet.google.com/eus-hrff-gwq>

Monday, 10h30–12h30

Session CSP 1 : Deep Learning, Image & Signal Applications

Chairs : Najoua Ben Amara Essoukri (Tunisia)
Ali Wali (Tunisia)

- CSP 1.1 Deep Learning Approach for COVID-19 Detection Based on X-Ray Images
Hayat Odeh; Taqwa Alomari and Mohammed Ibbini (Jordan)
- CSP 1.2 Deep Multi-modal Object Detection for Autonomous Driving
Amal Ennajar; Nadia Khouja; Rémi Boutteau and Fethi Tlili (Tunisia)
- CSP 1.3 Slim MobileNet: An Enhanced Deep Convolutional Neural Network
Safa Bouguezzi; Hassene Faiedh and Chokri Souani (Tunisia)
- CSP 1.4 Deep Batch-normalized eLU AlexNet For Plant Diseases Classification
Alaeddine Hmidi and Jihene Malek (Tunisia)
- CSP 1.5 Deep Pre-trained Models for Computer Vision Applications: Traffic sign recognition
Soulef Bouaafia; Seifeddine Messaoud; Amna Maraoui; Ahmed Chiheb Ammari; Lazhar Khriji and Mohsen Machhout (Tunisia–Oman)
- CSP 1.6 Z-Pooling
Vincent Vigneron; Leonardo Tomazeli Duarte and Hichem Maaref
..... (France–Brazil)
- CSP 1.7 Schizophrenia Diagnosis from fMRI data Based on Deep Curvelet Transform ..
Wiem Takrouni and Ali Douik (Tunisia)
- CSP 1.8 Deep Learning Algorithm to Predict The Integration Efficiency Of Wind Turbine In Smart Grid
Ferdaws Ben Naceur; Achraf Jabeur Telmoudi and Mohamed Ali Mahjoub
..... (Tunisia)

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Monday, 10h30–12h30

Session CSP 2 : Internet of Things

Chairs : Nouha Baccour (Tunisia)
Sabrine Kheriji (Germany)

- CSP 2.1 IoT Based Remote Laboratory for Solar Energy Experiments: Design and Implementation
Kasim M. Al-Aubidy; Abdallah W. Al-Mutairi and Hudefah Al-kashashneh (Jordan)
- CSP 2.2 A Comprehensive Analysis of Energy Dissipation in LEACH Protocol for Wireless Sensor Networks
Musaria Mahmood; Osama Al-Omari and Hajer Fadhel (Turkey)
- CSP 2.3 On the accuracy of iBeacon-based Indoor Positioning System in the iOS platform
Ngoc-Son Duong and Thai-Mai Dinh (Vietnam)
- CSP 2.4 Elliptic Curve Parameters Optimization For Lightweight Cryptography In Mobile-Ad-Hoc Networks
Mona Khammash; Rawan Tammam; Abdallah Masri and Ahmed Awad (Palestine)
- CSP 2.5 Enhancing security using digital signature in an efficient Network Coding-enabled WSN
Hana Rhim; Karim Tamine; Ryma Abassi; Damien Sauveron and Sihem Gue-mara (Tunisia–France)
- CSP 2.6 Impact of Silent Periods on Pseudonym Schemes
Nabil Kerkacha; Naima Hadj-Said; Noureddine Chaib; Asma Adnane and Ali-Pacha Adda (Algeria–UK)
- CSP 2.7 An RFID-Based Monitoring and Localization System for Dementia Patients ...
Mohammad Raad; Mohamed Deriche and Olfa Kanoun (Saudi Arabia–Germany)
- CSP 2.8 Real-time intelligent monitoring system based on IoT
Chayma Bahhar; Chokri Baccouch; Sofiene Ben Othman and Hedi Sakli (Tunisia–France)

Break



Monday, 12h30–13h00

Link: <https://meet.google.com/duc-vthx-zrp>

Monday, 13h00–14h30

Session SAC 2 : Complex Systems

Chairs : Mujahed Al-Dhaifallah (Saudi Arabia)
Hendrik Richter (Germany)

- SAC 2.1 Chaos elimination in power system using synergetic control theory
Abdul-Basset Al-Hussein; Fadhil Tahir and Olfa Boubaker (Iraq–Tunisia)
- SAC 2.2 New Method for Detection of Ventricular Suction in an implantable Pump Using Recursive DFT Algorithm
Mahmoud Elfandi, Khouloud El-Henqari and Abulgasim Shallof (Libya)

Link: https://meet.google.com/duc-vthx-zrp	Monday, 13h00–14h30
SAC 2.3	On Modeling Greenhouse Air-Temperature: an Experimental validation <i>Imen Haj Hamad; Amine Chouchaine and Hajer Bouzaouache</i>(Tunisia)
SAC 2.4	Disturbance Observers for Linear Closed Loop Systems <i>Cumhur Baspinar</i>(Germany)
SAC 2.5	Output voltage control of synchronous generator using Nelder–Mead algorithm based PI controller <i>Fatiha Habbi; Nour El Houda Gabour; Mohamed Bounekhla and El Ghalia Boudissa</i> (Algeria)
SAC 2.6	Maximizing the Domain of attraction of nonlinear systems: A PSO optimization approach <i>Faiçal Hamidi; Messaoud Aloui and Housseem Jerbi</i> (Tunisia–Saudi Arabia)
SAC 2.7	Distributed Alternating Direction Method of Multipliers for Linearly Constrained Optimization <i>Kaicheng Niu; Mi Zhou; Chaouki Abdallah and Mohammad Hayajneh</i>(USA–UAE)

Link: https://meet.google.com/xir-xatm-qdr	Monday, 13h00–14h30
Session SCI 2 : Medical Sensors & Systems	
Chairs : Chaker Tlili (China) Mounir Ben Ali (Tunisia)	
SCI 2.1	Graphene-based liquid gated field-effect transistor for label-free detection of DNA hybridization <i>Xiangdong Kong; Mohamed Bahri; Khouloud Djebbi; Biao Shi; Daming Zhou; Chaker Tlili and Deqiang Wang</i> (China)
SCI 2.2	Modeling of a Metamaterial Biosensor Based on Split Ring Resonators for Cancer Cells Detection <i>Afef Oueslati; Aymen Hlali and Hassen Zairi</i> (Tunisia)
SCI 2.3	Electrochemical immunosensing of Helicobacter Pylori Bacteria In-Vitro: Review <i>Hussamaldeen Jaradat; Ammar Al-Hamry; Mohammed Ibbini and Olfa Kanoun</i> (Jordan–Germany)
SCI 2.4	CMOS Bio-medical Amplifier based on Tera-Ohm Pseudo-resistor for Bio-detection System <i>Israa Y. I. AbuShawish and Soliman Mahmoud</i>(UAE)
SCI 2.5	An Ultra Wideband Efficient and Linear Power Amplifier for IEEE 802.15.3a applications <i>Hanen Saoudi and Hamadi Ghariani</i>(Tunisia)
SCI 2.6	Design and Implementation of a Safe Medical Box to Maintain Insulin Pens in Good Conditions <i>Roy Abi Zeid Daou; Elie Boutros; Tony Youssef; Ali Hayek; Josef Boercsoek and Javier Serrano</i>(Lebanon–Germany–Spain)
SCI 2.7	Tonic-Myoclonic Epileptic Seizure Classification based on Surface Electromyography <i>Achraf Djemal; Dhouha Bouchaala; Ahmed Fakhfakh and Olfa Kanoun</i>(Tunisia–Germany)

Link: <https://meet.google.com/obs-vrkr-dek>

Monday, 13h00–14h30

Session PSE 2 : Power Quality

Chairs : Tahar Bahi (Algeria)
Ali Mansouri (Tunisia)

- PSE 2.1 Flexible Control Strategies with Current Limitation of VSIs Under Unbalanced Grid Voltage Sags
Fathia Letaief; Asma Ben Rhouma and Mahmoud Hamouda (Tunisia)
- PSE 2.2 Electrical Power Flow Improvement by Reducing Fault Current using FACTS Devices
Jahin Al Hasan Joy; Md Rafiqul Islam; Nayeema Hasan; Ibrahim Mustafa Mehedi; Muhyaddin Rawa and Hussain Bassi (Bangladesh–Saudi Arabia)
- PSE 2.3 Interactive PV-Shunt Active Power Filter based on Impedance Source Inverter Controlled by SRF-MVF
Ali Teta; Abdellah Kouzou; Mohamed Mounir Rezaoui and Haitham Abu-Rub (Algeria–Qatar)
- PSE 2.4 Harmonic Impacts on the Electrical Distribution Network by the Broad Usage of LED Lamps
Abdeljelil Chammam; Brahim Mrabet; Laurent Canale and Georges Zissis (Saudi Arabia–Tunisia–France)
- PSE 2.5 P/Q Control of Grid-Connected Inverters
Ali Aillane; Aissa Chouder; Karim Dahech; Tarak Damak and Seydali Ferahtia (Tunisia–Algeria)
- PSE 2.6 Enhanced Harmonic Elimination Using Genetic Algorithm Optimization in Multilevel Inverters
Nour El Houda Gabour; Fatiha Habbi; Mohamed Bounekhla and El Ghalia Boudissa (Algeria)
- PSE 2.7 Three-Level NPC shunt active filter powered by a hybrid fuel-cell/battery dc bus voltage
Billel Bourouis; Hind Djeghloud and Hocine Benalla (Algeria)

Link: <https://meet.google.com/eus-hrfx-gwq>

Monday, 13h00–14h30

Session CSP 3 : Conventional Neural Networks for Image Processing


Chairs : Mohamed Deriche (Saudi Arabia)
Omar Daoud (Jordan)

- CSP 3.1 CNN for human exons and introns classification
Feriel Ben Nasr and Afef Elloumi Oueslati (Tunisia)
- CSP 3.2 CNN model applied on SNP protein sequences for intestinal cancer early detection
Saifeddine Ben Nasr; Imen Messaoudi; Afef Elloumi Oueslati and Zied Lachiri (Tunisia)
- CSP 3.3 Boosting CNN Learning by Ensemble Image Preprocessing Methods for Cervical Cancer Segmentation
Nesrine Bnouni; Hadil Ben Amor; Islem Rekik; Mohamed Salah Rhim; Basel Solaiman and Najoua Essoukri Ben Amara (Tunisia–France–Turkey)

Link: https://meet.google.com/eus-hrfx-gwq	<u>Monday, 13h00–14h30</u>
CSP 3.4	CNN-NoC: A Dynamic Hardware Architecture Of A CNN Using NoC For Deep Learning <i>Alaeddine Hmidi and Jihene Malek</i> (Tunisia)
CSP 3.5	3D CNN for Human Action Recognition <i>Sameh Neili Boualia and Najoua Essoukri Ben Amara</i> (Tunisia)
CSP 3.6	MIC: Multi-view Image Classifier using Generative Adversarial Networks for Missing Data Imputation <i>Gianmarco Aversano; Mahmoud Jarraya; Maher Marwani; Ichraf Lahouli and Sabri Skhiri</i> (Belgium–Tunisia)
CSP 3.7	Glioma segmentation based on CNN <i>Wadhah Ayadi; Wajdi Elhamzi and Mohamed Atri</i> (Tunisia– Saudi Arabia)

Link: https://meet.google.com/knk-dbrh-qpo	<u>Monday, 14h30–15h30</u>
Plenary Session 2:	
Chairs : Jawhar Ghommam (Oman) Nabil Derbel (Tunisia)	
PL-2	The output regulation problem: classical results and new trends <i>Bernardino Castillo-Toledo</i> (Mexico)

Link: https://meet.google.com/knk-dbrh-qpo	<u>Monday, 15h30–17h00</u>
Workshop:	
Chairs : Olfa Kanoun (Germany) Jawhar Ghommam (Oman)	
WS	Future of Space Engineering <i>Mohamed Abid</i> (USA) <i>Kamel Besbes</i> (Tunisia) <i>Mootez Jribi</i> (Tunisia) <i>Noureddine Rouafi</i> (USA) <i>R. Mihaela Botez</i> (Canada) <i>Foued Kamel</i> (Tunisia)

Link: https://meet.google.com/knk-dbrh-qpo	<u>Monday, 17h00–18h00</u>
	
SSD Meeting	

Tuesday, 23 of March, 2021

Link: <https://meet.google.com/duc-vthx-zrp> **Tuesday, 8h30–9h15**

Keynote Lecture KL-SAC 1:
Chairs : Abdul-Wahid Al-Saif (Saudi Arabia)
Ahmed Said Nouri (Tunisia)

KL-SAC 1 Upper Extremity Rehabilitation Robot
Mohammad Habibur Rahman, Brahim Brahmi, Inga Wang, Ahmed Tanvir (USA)

Link: <https://meet.google.com/obs-vrkr-dek> **Tuesday, 8h30–9h15**

Keynote Lecture KL-PSE 1:
Chairs : Abu-Rub Haitham (Qatar)
Abdallah Kouzou (Algeria)

KL-PSE 1 Integration of Electric Vehicles in a Smart Grid: Challenges & Opportunities ..
Adel Gastli (Qatar)

Link: <https://meet.google.com/eus-hrfx-gwq> **Tuesday, 8h30–9h15**

Keynote Lecture KL-CSP 1:
Chairs : Mohamed Deriche (Saudi Arabia)
Kasim Mousa Al-Aubidy (Jordan)

KL-CSP 1 Green Desalination Technologies: Electrostatic and hydro-magnetic Desalination
Techniques
Moustafa Elshafei (Saudi Arabia–Egypt)

Link: <https://meet.google.com/xir-xatm-qdr> **Tuesday, 8h30–9h15**

Keynote Lecture KL-SCI 1:
Chairs : Brahim Mezghani (Tunisia)
Faouzi Derbel (Germany)

KL-SCI 1 Energy Harvesting for Smart Industry: Generating the energy you need from the
sources you know
Sebastian Bader (Sweden)

Link: <https://meet.google.com/duc-vthx-zrp> **Tuesday, 9h15–11h15**

Session SAC 3 : Faulty Systems
Chairs : Mohammed Bani-Younis (Jordan)
Mohamed Naceur Abdelkrim (Tunisia)

SAC 3.1 IoT for health and usage monitoring systems: Mitigating consequences in Man-
ufacturing under CBM
Samir Mekid (Saudi Arabia)

SAC 3.2 Robust Active Fault Tolerant Control for Five-Phase PMSM against Speed Sensor
Failures
Abir Hezzi; Mohamed Naceur Abdelkrim and Seifeddine Benelghali
..... (Tunisia–France)

Link: https://meet.google.com/duc-vthx-zrp	Tuesday, 9h15–11h15
SAC 3.3	Uncertain Dynamic Process Monitoring Using Moving Window Interval PCA .. <i>Imen Hamrouni; Hajer Lahdhiri; Okba Taouali and Kais Bouzrara ...</i> (Tunisia)
SAC 3.4	MPP Tracking based on classical P&O control and FLC-Hill Climbing technique for a PV Generator <i>Mariam Hadj Salem; Yemna Bensalem and Mohamed Naceur Abdelkrim</i> (Tunisia)
SAC 3.5	Reduced GPR based RF Approach for Fault Diagnosis of Wind Energy Conversion Systems <i>Radhia Fezai; Majdi Mansouri; Mohamed Trabelsi; Hazem N Nounou; Mohamed Nounou and Kais Bouzrara</i> (Tunisia–Kuwait–Qatar)
SAC 3.6	Random forest-based nonlinear improved feature extraction and selection for fault classification <i>Majdi Mansouri; Radhia Fezai; Mohamed Trabelsi; Hazem N Nounou; Mohamed Nounou and Kais Bouzrara</i> (Tunisia–Kuwait–Qatar)
SAC 3.7	A Novel Leak Detection Approach in Water Distribution Networks <i>Radhia Fezai; Kais Bouzrara; Majdi Mansouri; Hazem N Nounou; Mohamed Nounou and Vicenç Puig</i> (Tunisia–Qatar–Spain)

Link: https://meet.google.com/xir-xatm-qdr	Tuesday, 9h15–11h15
Session SCI 3 : Special Session on Functional Safety Applications	
Chairs : Josef Börcsök (Germany) Mohamed Abdelawwad (Germany)	
SCI 3.1	Assembly defect detection using rivets in aeronautical structures <i>Leila Troudi and Khaled Jelassi</i> (Tunisia)
SCI 3.2	Safe-System-on-Chip for Functional Safety <i>Josef Boercsoek; Waldemar Mueller; Eike Hahn; Michael H. Schwarz and Mo- hamed Abdelawwad</i> (Germany–Egypt)
SCI 3.3	Depth Camera and Laser Sensors Plausibility Evaluation for Small Size Obstacle Detection <i>Mohammed S. Mohammed Ali Khesbak</i> (Germany)
SCI 3.4	Intelligent multiple Vehicule Detection and Tracking Using Deep-learning and Machine Learning <i>Mohamed Ben Youssef; Afef Salhi and Fatma Ben Salem</i> (Tunisia)
SCI 3.5	Enhancement of Reliability and Precision of Navigation by Odometry <i>Richard Thum and Josef Börcsök</i> (Germany)
SCI 3.6	A Secure IoT-enabled Sensor Node for Traffic Light Management and Level of Service Computation <i>Imed Saad Ben Dhaou</i> (Saudi Arabia–Tunisia)

Link: https://meet.google.com/obs-vrkr-dek	Tuesday, 9h15–11h15
Session PSE 3 : Machine Control	
Chairs : Mohamed Abdelrahem (Germany) Hadi Kanaan (Lebanon)	
PSE 3.1	Sensorless Control of PMSM using SMC and Sensor Fault Detection Observer . <i>Marcel Nicola and Claudiu-Ionel Nicola</i> (Romania)

Session PSE 3 : Machine Control

Chairs : Mohamed Abdelrahem (Germany)
Hadi Kanaan (Lebanon)

- PSE 3.2 Sensorless Control of PMSM using Fractional Order SMC and Extended Kalman Observer
Marcel Nicola and Claudiu-Ionel Nicola (Romania)
- PSE 3.3 Torque Ripple Minimization Approach of a 3-phase Switched Reluctance Motor
Zeineb Touati; Imed Mahmoud and Adel Khedher (Tunisia)
- PSE 3.4 FPGA Implementation of a Sensorless RFOC Strategy for the Delta Inverter fed Induction Motor Drive
Asma Ben Rhouma (Tunisia)
- PSE 3.5 Control of a Stand-Alone Variable Speed Wind Turbine with a Permanent Magnet Synchronous Generator
Mohammed Abdulelah Albasheri; ouchhida Ouahid and Sofi Youcef ... (Algeria)
- PSE 3.6 Traction Mode of an Electric Vehicle based on a Delta Inverter feeding a Split Stator Windings PMSM
Asma Ben Rhouma (Tunisia)
- PSE 3.7 Marine Current Energy Conversion System driven DFIG connected to DC-bus
Yosra Smai; Bilel Touaiti; Hechmi Ben Azza and Mohamed Jemli (Tunisia)
- PSE 3.8 Improved Classic Direct Torque Control Based on Doubly Fed Induction Generator Use Neural Network
Mujammal Ahmed Hasan Mujammal; Abdelhafidh Moualdia and Djamel Boudana (Algeria)

Session CSP 4 : Advanced Algorithms for Image & Signal Processing

Chairs : Kasim Mousa Al-Aubidy (Jordan)
Azzedine Zerguine (Saudi Arabia)

- CSP 4.1 Pitfalls of spikes filtering for detecting High Frequency Oscillations (HFOs)
Sahbi Chaibi; Chahira Mahjoub; Fatma Krikid; Ahmad Karfoul; Régine Le Bouquin Jeannès and Abdennaceur Kachouri (Tunisia–France)
- CSP 4.2 Chaotic Encryption System Based on Pixel Value and Position Transformation for Color Images
Atheer Mansoor; Hikmat N. Abdullah; Mohammed F. Al-Gailani and Hadi Tarish Ziboon (Iraq)
- CSP 4.3 Rate-Distortion Performance Comparison: VVC vs. HEVC
Soulef Bouaafia; Randa Khemiri and Fatma Ezzahra Sayadi (Tunisia)
- CSP 4.4 Imperceptibility Analysis for Watermarking Technique Based on Image Block Division Scheme
Maryam Abdullah; Amelia Ritahani Ismail and Adamu Abubakar ... (Malaysia)
- CSP 4.5 Analysis of Watermarking Techniques with Wavelet and Cosine Transform for Imperceptibility on Image
Maryam Abdullah; Amelia Ritahani Ismail and Adamu Abubakar ... (Malaysia)

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Tuesday, 9h15–11h15

- CSP 4.6 Study of the sensitivity of an inSAR interferogram encrypted by the AES-128 algorithm
Nada Cherrid; Riad Saidi; Tarek Bentahar and Hichem Mayache (Algeria)
- CSP 4.7 SAR Speckle Filtering Using Hybrid NonLocal Sigma Filter
Soumaya Fatnassi; Mohamed Yahia and Tarig Ali (Tunisia–UAE)

Link: <https://meet.google.com/eus-hrfx-gwq>

Tuesday, 9h15–11h15

Session CSP 5 : Wireless Communications

Chairs : Faouzi Derbel (Germany)
Ines Kammoun Jemal (Tunisia)

- CSP 5.1 5G Channel Characterization at Millimeter-Wave for Baghdad City: An NYUSIM-based Approach
Ali N. Al-Shuwaili and Thamer Jamel (USA–Iraq)
- CSP 5.2 In-Depth Performance Evaluation of Network Slicing Strategies in Large Scale Industry 4.0
Seifeddine Messaoud; Samir Dawaliby; Abbas Bradai and Mohamed Atri
..... (Tunisia–France–Saudi Arabia)
- CSP 5.3 A Novel Inverse Gaussian Profile for OAM Mode Division Multiplexing Optical Networks
Alaaeddine Rjeb; Hussein E. Seleem; Habib Fathallah and Mohsen Machhout ..
..... (Tunisia)
- CSP 5.4 V2V Clusters Life Time Enhancement based on Multiparallel Processing Algorithm
Omar R Daoud; Marwan Al-Akaidi and Ahlam Damati (Jordan–UAE)
- CSP 5.5 Survey on Clustering in VANET Networks
Mays Kareem Jabbar Alsabab; Hafedh Trabelsi and Wassim Jerbi (Iraq–Tunisia)
- CSP 5.6 Neighbor-Assisted Localization for Massive MIMO 5G Systems
Amal Sellami; Leila Nasraoui and Leila Najjar (Tunisia)
- CSP 5.7 Blind MMSE Equalizer for Nonlinear SIMO Systems
Abdulmajid Lawal; Karim Abed-Meraim; Qadri Mayyala; Naveed Iqbal and Azzedine Zerguine (Saudi Arabia–Palestine–France)
- CSP 5.8 Analysis of the Normalized Sign-Sign LMS Algorithm
Mohammed Mujahid Ulla Faiz and Azzedine Zerguine (Saudi Arabia)

Break



Tuesday, 11h15–11h30

Link: <https://meet.google.com/duc-vthx-zrp>

Tuesday, 11h30–13h00

Session SAC 4 : Robotics II

Chairs : Ahmed Chemori (France)
Ibrahim Al-Naimi (Jordan)

- SAC 4.1 Drivers Fatigue Detection Using EfficientDet In Advanced Driver Assistance Systems
Riadh Ayachi; Mouna Afif; Yahia Said and Ben Abdelali Abdessalem . (Tunisia)
- SAC 4.2 RISE Based Computed Torque Control for trajectory tracking of parallel robot
Fatima Nouri; Farid Ferguene and Redouane Toumi (Algeria)
- SAC 4.3 Methodology for the design of parallel robots using performance atlases
Javier D Sanjuan De Caro; Elias Muñoz Montenegro; Miguel Padilla Ramirez; David Serje Martinez; Mohammad habibur Rahman; Brahim Brahmi and Ibrahim El Bojairami (USA–Colombia–Canada)
- SAC 4.4 Inverse Kinematic solution of u-Rob4 an hybrid exoskeleton for stroke rehabilitation
Javier D Sanjuan De Caro; Md Rasedul Islam; Elias Muñoz Montenegro; Brahim Brahmi and Mohammad habibur Rahman (USA–Canada)
- SAC 4.5 Trajectory Tracking of a 2-DOF Helicopter System Using Canonical Normal Form
Brahim Brahmi; Soraya Bouden and Mohammad habibur Rahman ... (Canada)
- SAC 4.6 Inverse Kinematics of a Team of 5-DOF Holonomic Mobile Cooperative Rover Manipulators
Emory Joshua Salberg, Jr; Brahim Brahmi; Mohammad habibur Rahman; Javier D Sanjuan De Caro and Ivan Rulik (USA–Canada)

Link: <https://meet.google.com/xir-xatm-qdr>

Tuesday, 11h30–13h00

Session SCI 4 : Systems & Design

Chairs : Ahmed Fakhfakh (Tunisia)
Jihen Malek (Tunisia)

- SCI 4.1 SoC approach for low cost and low power consumption based on ARM Cortex M3 according to ISO 26262
Muhammad Ikram Hafiz; Mohamed Abdelawwad; Waldemar Mueller; Eike Hahn and Josef Boercsoek (Germany–Egypt)
- SCI 4.2 An approach for an efficient sharing of IP as a Service in cloud FPGA
Rym Skhiri; Virginie Fresse; Jihene Malek; Benoit Suffran and Jean-Paul Jamont (Tunisia–France)
- SCI 4.3 Design and Implementation of a Band-Pass SD Modulator Model with Non-Idealities using Simplorer VHDL
Nejmeddine Sifi and Raja Maghrebi (Tunisia)
- SCI 4.4 Numerical validation of experimental results for the dynamic behavior of sandwich structures
Najah Hamamed; Slim Bouaziz; Hamdi Hentati; Mohamed Haddar; El Rachid Guerjouma and Nourdin Yaakoubi (Tunisia–France)
- SCI 4.5 Regulated Step-Up Power Supplies: Design and Simulation
Acacio Amaral and Antonio J. Marques Cardoso (Portugal)

Link: https://meet.google.com/xir-xatm-qdr	Tuesday, 11h30–13h00
SCI 4.6 Identification of Communication Cables Based on S-Parameters and K-Nearest Neighbors Algorithm	
<i>Oumaima Bader; Dhia Haddad; Ahmed Yahia Kallel; Najoua Essoukri Ben Amara and Olfa Kanoun</i>	(Germany–Tunisia)

Link: https://meet.google.com/obs-vrkr-dek	Tuesday, 11h30–13h00
Session PSE 4 : Power Systems	
Chairs : Samet Biricik (Turkey) Abdallah Kouzou (Algeria)	
PSE 4.1 Backstepping Controller Design for the Medium and Low Voltage Stages of Smart Transformer	
<i>Hiba Helali and Adel Khedher</i>	(Tunisia)
PSE 4.2 The Challenges in a Case of Protecting a Series Compensated Transmission Line	
<i>Abosalah ElMehdi and Ali Ben-Ashour</i>	(Libya)
PSE 4.3 A generic model for the simulation of the thermal and energetic behaviour of technical systems	
<i>Oliver Welz; Sophie Gedicke; Julian Hofbauer and Mathias Rudolph.</i> (Germany)	
PSE 4.4 Study of spectral response of Transformer Oil under Low Electrical Discharge and Thermal Stress	
<i>Salihia Boudraa; L. Mokhnache; I. Fofana and F. Benabed</i> ...	(Algeria–Canada)
PSE 4.5 Comparative Analysis Study of Tunisian and Algerian Grid Codes Relevant to PV Installations	
<i>Chokri Ben salah; Gaith Baccouche; Abdel Azizi Saidi; Saida Makhloufi and Adnene El Haj Hamida</i>	(Tunisia–Algeria–Saudi Arabia)
PSE 4.6 Chaos Embedded Particle Swarm Optimization Technique for Solving Optimal Power Flow Problem	
<i>Ismail H. Daghan; Muhsin Gencoglu and Mahmut Temel Ozdemir</i>	(Turkey)
PSE 4.7 Reducing effect of neighboring HV overhead lines on interference at single-pole automatic reclosing	
<i>Fabian Wiessner; Torsten Tobien and Faouzi Derbel</i>	(Germany)

Link: https://meet.google.com/eus-hrfx-gwq	Tuesday, 11h30–13h00
Session CSP 6 : Machine Learning	
Chairs : Mohamed Deriche (Saudi Arabia) Sabrine Kheriji (Germany)	
CSP 6.1 Prediction of Financial Statement Fraud using Machine Learning Techniques in UAE	
<i>Magdi El-Bannany; Ahlam Dehghan and Ahmed Khedr</i>	(UAE)
CSP 6.2 Identification of Donald Trump’s Tweets Using Machine Learning	
<i>Lina Ahmad and Amjed Al-Mousa</i>	(Jordan)
CSP 6.3 PGTLTP: A Dataset for Tunisian License Plate Detection and Recognition	
<i>Amir Ismail; Maroua Mehri; Anis Sahbani and Najoua Essoukri Ben Amara</i> ..	(Tunisia)

Link: https://meet.google.com/eus-hrfx-gwq	<u>Tuesday, 11h30–13h00</u>
CSP 6.4 Hybrid Learning Method for Image Segmentation	
<i>Islem Gammoudi; Raja Ghozi and Mohamed Ali Mahjoub</i>	(Tunisia)
CSP 6.5 Blind image steganalysis using features extraction and machine learning	
<i>Houcemeddine Hermassi</i>	(Tunisia)
CSP 6.6 DRNNA: Decomposable Reverse Nearest Neighbor Algorithm for Distributed Databases	
<i>Ahmed Khedr and Pravija Raj P V</i>	(UAE)
CSP 6.7 Speaker Identification for Disguised Voices Based on Modified SVM Classifier .	
<i>Noor Ahmad Al Hindawi; Ismaill M. Shahin and Ali Bou Nassif</i>	(UAE)

Break		<u>Tuesday, 13h00–13h30</u>
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Link: https://meet.google.com/knk-dbrh-qpo	<u>Tuesday, 13h30–14h30</u>
Plenary Session 3:	
Chairs : Mohamed Ibnkahla (Canada) Mohamed Deriche (Saudi Arabia)	
PL-3 Smart Grid as the Next Energy Paradigm	
<i>Abu-Rub Haitham</i>	(Qatar)

Link https://meet.google.com/knk-dbrh-qpo	<u>Tuesday, 14h30–17h30</u>	
PhD Student Contest		

Wednesday, 24 of March, 2021

Link: <https://meet.google.com/duc-vthx-zrp> Wednesday, 8h30–9h15

Keynote Lecture KL-SAC 2 :
Chairs : Yassine Bouteraa (Saudi Arabia)
Tarak Damak (Tunisia)

KL-SAC 2 Motion Control of Biomimetic Autonomous Underwater Vehicles: Towards an Effective Diver/Robot Cooperation
Ahmed Chemori (France)

Link: <https://meet.google.com/obs-vrkr-dek> Wednesday, 8h30–9h15

Keynote Lecture KL-PSE 2 :
Chairs : Hafedh Trabelsi (Tunisia)
Ghada Boukettaya (Tunisia)

KL-PSE 2 Grid-Connected Renewable Energy Sources-Challenges and Trends
Atif Iqbal (Qatar)

Link: <https://meet.google.com/eus-hrff-gwq> Wednesday, 8h30–9h15

Keynote Lecture KL-CSP 2 :
Chairs : Faouzi Derbel (Germany)
Ines Kammoun (Tunisia)

KL-CSP 2 IoT, AI, and Big Data in a pandemic era
Mohamed Ibnkahla (Canada)

Link: <https://meet.google.com/xir-xatm-qdr> Wednesday, 8h30–9h15

Keynote Lecture KL-SCI 2 :
Chairs : Mounir Ben Ali (Tunisia)
Olfa Kanoun (Germany)

KL-SCI 2 Industrial temperature measurement
Thomas Fröhlich (Germany)

Link: <https://meet.google.com/duc-vthx-zrp> Wednesday, 9h15–11h15

Session SAC 5 : Robust Control
Chairs : Naceur Benhadj Braïek (Tunisia)
Tarak Tutunji (Jordan)

SAC 5.1 Fractional Incremental Resistance Based MPPT for Thermoelectric Generation systems
Mujahed Aldhaifallah; Abdulwahid A. Saif; Uthman Baroudi; Hegazy Rezk and Ahmed Mohamed (Saudi Arabia–USA)

SAC 5.2 Robust tracking MPC for uncertain system stabilisation using polyhedral sets .
Walid Hamdi; Wissal Bey and Naceur Benhadj Braïek (Tunisia)

Link: https://meet.google.com/duc-vthx-zrp	Wednesday, 9h15–11h15
SAC 5.3	Identification and Control of an Industrial Thickener Using Historical Data <i>Ridouane Oulhiq; Khalid Benjelloun; Yassine Kali and Maarouf Saad</i> (Morocco–Canada)
SAC 5.4	Dynamic Modeling, Simulation and Study of a Sulfur Burning Unit in an Industrial Sulfur <i>Amine Mounaam; Ridouane Oulhiq; Ahmed Souissi; Mohamed Salouhi and Khalid Benjelloun</i> (Morocco)
SAC 5.5	Energy Management in the Power Chain of Electric Cars with Electromagnetic Switches <i>Saber Hadj Abdallah and Souhir Tounsi</i> (Tunisia)
SAC 5.6	An Optimization Technique for Voltage Regulation in Electrical Power Systems <i>Jasim Ghaeb and Malek Alkayyali</i> (Jordan–USA)
SAC 5.7	MISO fractional systems identification with fractional models in the EIV context <i>Noura Ben Moussa; Manel Chetoui and Messaoud Amairi</i> (Tunisia)
SAC 5.8	From PD to Fractional Order PD controller used for gait rehabilitation <i>Intissar Zaway; Rim Jallouli-Khlif; Boutheina Maalej; Hanene Medhaffar and Nabil Derbel</i> (Tunisia)

Link: https://meet.google.com/xir-xatm-qdr	Wednesday, 9h15–11h15
Session SCI 5 : Sensors & Systems for IoT	
Chairs : Christian Viehweger (Germany) Sabrine Khriji (Germany)	
SCI 5.1	Communication SoC based on 1oo2D architecture for industrial human-robot-collaboration <i>Mohamed Abdelawwad; Malte Drabesch; Michael H. Schwarz; Muhammad Ikram Hafiz and Josef Boercsoek</i> (Germany)
SCI 5.2	Hand Gesture Recognition Based on Force Myography Measurements Using KNN Classifier <i>Bilel Ben Atitallah; Malak Fora; Khaldon Lweesy and Olfa Kanoun</i> (Germany–Jordan)
SCI 5.3	A parallel Architecture of a Genetic Algorithm for EIT Image Reconstruction . <i>Mariem Hafsa; Bilel Ben Atitallah; Taha Ben Salah; Najoua Essoukri Ben Amara and Olfa Kanoun</i> (Germany–Tunisia)
SCI 5.4	Design and evaluation of a low energy Bluetooth sensor node for animal monitoring <i>Kunal Shyamadas Burman; Sven Schmidt; Dhouha El Houssaini and Olfa Kanoun</i> (Germany–Tunisia)
SCI 5.5	Sensor Data Augmentation Strategy for Load Forecasting in Smart Grid Context <i>Asma Maalej and Chiheb Rebai</i> (Tunisia)
SCI 5.6	Vehicle Detection System for Smart Crosswalks Using Sensors and Machine Learning Techniques <i>José Manuel Lozano Domínguez; Faroq Al-Tam; Tomás de Jesús Mateo Sanguino and Noelia Correia</i> (Spain–UK–Portugal)
SCI 5.7	Design optimization of spiral coils for textile applications by genetic algorithm <i>Yosra Ben Fadhel; Ghada Bouattour; Dhouha Bouchaala; Nabil Derbel and Olfa Kanoun</i> (Tunisia–Germany)

Link: https://meet.google.com/xir-xatm-qdr	Wednesday, 9h15–11h15
<p>SCI 5.8 Sliding Mode Control of an Inductive Power Transmission System with Maximum Efficiency <i>Abdullah Adawi; Ghada Bouattour; Mohammed Ibbini; Nabil Derbel and Olfa Kanoun</i> (Jordan–Germany–Tunisia)</p>	

Link: https://meet.google.com/obs-vrkr-dek	Wednesday, 9h15–11h15
Session PSE 5 : Materials & Semiconductor	
Chairs : Abdelkader Khadir (Algeria) Aissat Abdelkader (Algeria)	
PSE 5.1 Incorporation of a Viscositybased Model in Nonlinear Finite Element Analysis for SPM <i>Hajer Mel; Ali Mansouri and Hafedh Trabelsi</i> (Tunisia)	
PSE 5.2 The impact of electrodes on the reduction of anisotropy in biological tissues ... <i>Chaima Dhifallah; Nejeh Hamdaoui; Sami Ameer and Ridha Ajjel</i> ... (Tunisia)	
PSE 5.3 Optical and electrical modeling for high power conversion efficiency hybrid perovskite solar cells <i>Fatma Ezzahra Cherif and Habib Sammouda</i> (Tunisia)	
PSE 5.4 Non-Fourier heat conduction effect in nanoscale FinFET and GAAFET Transistor <i>Maissa Belkhiria; Fraj Echouchene and Nejeh Jaba</i> (Tunisia)	
PSE 5.5 Analysis of heat transfer in GAAFET Transistor with linear doping based on single-phase lag model <i>Fraj Echouchene and Maissa Belkhiria</i> (Tunisia)	
PSE 5.6 Tuning the Performance of Flexible Lead-Free Zn-BCZT/PVDF-HFP Piezoelectric Nanogenerator <i>Amina Ben Ayed; Hanen Nouri; Hamadi Khemakhem; Olfa Kanoun and Ayda Bouhamed</i> (Tunisia–Germany)	
PSE 5.7 Enhanced piezoelectric performance of lead free BCZT based flexible nanogenerator <i>Sarra Missaoui; Ayda Bouhamed; Mohamed Hassan Khedri; Hamadi Khemakhem and Olfa Kanoun</i> (Tunisia–Germany)	
PSE 5.8 Implementation of a Second Order Sliding Mode Speed Controller for an Induction Motor Using an FPGA <i>Saber Krim and Mohamed Faouzi Mimouni</i> (Tunisia)	

Link: https://meet.google.com/eus-hrfx-gwq	Wednesday, 9h15–11h15
Session CSP 7 : Biomedical Systems	
Chairs : Boudour Ammar (Tunisia) Sameh Fakhfakh (Tunisia)	
CSP 7.1 Relevant Biophysical Parameters Along Corticospinal Tract in Patients with Stroke <i>Abderrazek Zeraii; Lazhar Rmili; Amine Ben Slama; Cyrine Drissi and Tarek Kraiem</i> (Tunisia)	

Link: <https://meet.google.com/eus-hrff-gwq>

Wednesday, 9h15–11h15

- CSP 7.2 Comparison of LORETA and CSP for Brain-Computer Interface Applications .
Eliana Santos; Rodrigo San-Martin and Francisco J. Fraga (Brazil)
- CSP 7.3 Emirati-Accented Emotion Verification based on HMM3s, HMM2s, and HMM1s
Ismaïl M. Shahin and Noor Ahmad Al Hindawi (UAE)
- CSP 7.4 Comparative of Swarm Intelligence based Wrappers for sEMG Signals Feature Selection
Hiba Hellara; Rim Barioul; Salwa Sahnoun; Ahmed Fakhfakh and Olfa Kanoun (Tunisia–Germany)
- CSP 7.5 Six Sensors Bracelet for Force Myography based American Sign Language Recognition
Sajidah Al-Hammouri; Rim Barioul; Khaldon Lweesy; Mohammed Ibbini and Olfa Kanoun (Jordan–Germany–Tunisia)
- CSP 7.6 Enhanced heart rate estimation based on face features
Mossaad Ben Ayed; Shaya Alshaya and Adil Alshammari (Tunisia–Saudi Arabia)
- CSP 7.7 Enhancing Users Collaboration By Vocal Annotations
Amjad W Hawash; Enas Asmar; Saja Salahat and Farah Zubdeh ... (Palestine)
- CSP 7.8 On the Use of Spectrogram Inversion for Speech Enhancement
Raja Abdelmalek; Zied Mnasri and Faouzi Benzarti (Tunisia)

Break



Wednesday, 11h15–11h30

Link: <https://meet.google.com/duc-vthx-zrp>

Wednesday, 11h30–13h00

Session SAC 6 : Sliding Mode Control

Chairs : Hassène Gritli (Tunisia)
Tarak Damak (Tunisia)

- SAC 6.1 Guaranteed Cost Sliding Mode Control For Discrete Uncertain T-S Fuzzy Systems With Time Delays
Yassine Ben Yazid and Ahmed Said Nouri (Tunisia)
- SAC 6.2 Sensorless Sliding Mode Control of Open-End Dual-Stator Induction Motor using Extended Kalman Filter
Saad Khadar; Haitham Abu-Rub and Abdellah Kouzou (Algeria–Qatar)
- SAC 6.3 Modified Fast Terminal Super-Twisting Control for Uncertain Robot Manipulators
Walid Alqaisi; Yassine Kali and Claude Ziad El-Bayeh (Qatar–Canada)
- SAC 6.4 Finite-time adaptive trajectory tracking control based on sliding mode for Wheeled Mobile Robot
Brahim Moudoud; Hicham Aissaou and Mohammed Diany (Morocco)
- SAC 6.5 Backstepping Super-Twisting for Robotic Manipulators with Matched and Unmatched Uncertainties
Yassine Kali; Maarouf Saad and Khalid Benjelloun (Canada–Morocco)

Link: https://meet.google.com/duc-vthx-zrp	Wednesday, 11h30–13h00
SAC 6.6	New Adaptive Sliding Mode for Unperturbed Forearm and Wrist Rehabilitation Robot <i>Brahim Brahmi; Ibrahim El Bojairami; Tanvir Ahmed; Mohammad habibur Rahman; Asif Al Zubayer Swapnil and Javier D Sanjuan De Caro...</i> (Canada–USA)

Link: https://meet.google.com/xir-xatm-qdr	Wednesday, 11h30–13h00
Session SCI 6 : Sensors & Technologies	
Chairs : Roman Gruden (Germany) Brahim Mezghani (Tunisia)	
SCI 6.1	Extended range of a MEMS electrostatic actuator using an adjustable linear controller <i>Hatem Samaali and Fehmi Najar</i> (Tunisia)
SCI 6.2	An efficient Design of three-input XOR gate in QCA technology <i>Ismail Gassoumi; Lamjed Touil and Abdellatif Mtibaa</i> (Tunisia)
SCI 6.3	A Compact 20GHz Dynamic Latch Comparator in 65nm CMOS Process <i>Jerome Folla kamdem; Evariste Wembe tafo; Bernard Essimbi zobo; Maria Liz Crespo and Andres Cicuttin</i> (Italy–Cameroon)
SCI 6.4	A Green Deformation Sensor Based on Bacterial Cellulose and Bio-Derived Ionic Liquids <i>Carlo Trigona; Salvatore Graziani; Santhosh Kurukunda; Giovanna Di Pasquale; Antonio Pollicino; Alvo Aabloo and Kaija Pöhako-Esko</i> (Italy)
SCI 6.5	Noise and temperature compensation for Graphene-ISFET micro-sensor <i>Ahmed Gaddour; Belgacem Hamdi and Mounir Ben Ali</i> (Tunisia)
SCI 6.6	Adaptive Compensation Technique of quartz crystal parallel parasitic capacitance <i>Atman Jbari; Larbi Bellarbi and Abdelhamid Errachid</i> (Morocco–France)
SCI 6.7	Exploitation of Chemo-Electrical Transduction Properties of Soil in Function of Radiation Doses <i>Andrea Baglieri; Anna M Gueli; Martina Pace; Stefania Pasquale; Ivana Puglisi and Carlo Trigona</i> (Italy)


Link: https://meet.google.com/knk-dbrh-qpo	Wednesday, 11h30–13h00
Session PSE 6 : Sustainable Energies	
Chairs : Nadezhda Kunicina (Latvia) Yusuff Adedayo (South Africa)	
PSE 6.1	Comparative study among physical models and artificial intelligence methods for PV power forecasting <i>Rim Ben Ammar; Mohsen Ben Ammar and Abdelmajid Oualha</i> (Tunisia)
PSE 6.2	A Composite Moving Average Algorithm for Predicting Energy in Solar Powered Wireless Sensor Nodes <i>Murad Al-Omary; Rafat Aljarrah; Aiman Albatayneh and Mustafa Jaradat</i> (Jordan)
PSE 6.3	Solar Irradiance measuring using PV module and PIC microcontroller based Electronic assembly <i>Fekkak Bouazza; Abdellah Kouzou and Hamid Kaabeche</i> (Algeria)

Link: https://meet.google.com/knk-dbrh-qpo	Wednesday, 11h30–13h00
PSE 6.4	Hybrid Energy Storage Review for Renewable Energy System Technologies and Applications <i>Ahmed Samawi Alkhafaji; Ali Abedaljabar Al-Samawi and Hafedh Trabelsi</i> (Iraq–Tunisia)
PSE 6.5	Space-based Solar Power Applications: A Desert Irrigation Case <i>Sung Wook Paek; Jean-Paul Kneib and Olivier de Weck</i> ... (Switzerland–USA)
PSE 6.6	Comparative evaluation of the performance of a capacitive and a non-capacitive microbial fuel cell <i>Imologie Meshack Simeon; Ruth Freitag and Agbotiname Lucky Imoize</i> (Germany–Nigeria)

Link: https://meet.google.com/obs-vrkr-dek	Wednesday, 11h30–13h00
Session PSE 7 : Smart Grids	
Chairs : Youcef Soufi (Algeria) Souhir Sallem (Tunisia)	
PSE 7.1	Robustness of Smart Transformer Based-on Sliding Mode Controller under Grid Perturbations <i>Hiba Helali and Adel Khedher</i> (Tunisia)
PSE 7.2	Mesh Network-Based Device-to-Device Negotiation System for Energy Management <i>Ahmed Mannan; Mohammed Bader; Ula Hijawi; Adel Gastli and Ridha Hamila</i> (Qatar)
PSE 7.3	Effect of Optimal Energy Management Strategy on Parallel Hybrid Electric Vehicle Performances <i>Marwa Ben Ali and Ghada Boukettaya</i> (Tunisia)
PSE 7.4	Urban district modelling simulation-based analysis: under which scenarios can we achieve a PED? <i>Tony Castillo Calzadilla; Simon Fessler; Cruz E. Borges and Cristina Martin Andonegui</i> (Spain)
PSE 7.5	Design of an IoT-Enabled Microgrid Architecture for a Partial Grid-Connected Mode <i>Mahmoud Shaban and Imed Saad Ben Dhaou</i> (Saudi Arabia–Tunisia)
PSE 7.6	Review on Solid State Transformer Based on Microgrids Architectures <i>Marwa Fathi Chalbi and Ghada Boukettaya</i> (Tunisia)

Link: https://meet.google.com/eus-hrff-gwq	Wednesday, 11h30–13h00
Session CSP 8 : System Design & Implementation	
Chairs : Omar Daoud (Jordan) Khaled Grati (Tunisia)	
CSP 8.1	PYNQ FPGA Hardware implementation of LeNet-5-Based Traffic Sign Recognition Application <i>Amna Maraoui; Seifeddine Messaoud; Soulef Bouaafia; Ahmed Chiheb Ammari; Lazhar Khriji and Mohsen Machhout</i> (Tunisia–Oman)
CSP 8.2	Analysis of Embedded Fingerprint Biometric Recognition System Algorithm .. <i>Mario I Elzein and Moustapha Kurdi</i> (Belarus–Lebanon)

Link: https://meet.google.com/eus-hrff-gwq	<u>Wednesday, 11h30–13h00</u>
CSP 8.3	An efficient Design of 1:2 Demultiplexer in QCA technology with power dissipation analysis <i>Ismail Gassoumi; Lamjed Touil and Abdellatif Mtibaa</i> (Tunisia)
CSP 8.4	Hardware Implementation of Tanh Exponential Activation Function using FPGA <i>Safa Bouguezzi; Hassene Faiedh and Chokri Souani</i> (Tunisia)
CSP 8.5	Building Structural Health Monitoring: an FBG-based estimation of external vibrations <i>Maha Sliti and Noureddine Boudriga</i> (Tunisia)
CSP 8.6	An efficient Real time Implementation of Motion estimation on Soc System ... <i>Anis Ammar; Hana Ben Fredj and Chokri Souani</i> (Tunisia)

	<u>Wednesday, 13h00–13h30</u>
Break	

Link: https://meet.google.com/duc-vthx-zrp	<u>Wednesday, 13h30–14h30</u>
Keynote Lecture KL-SAC 3 :	
Chairs : Sami El Ferik (Saudi Arabia) Mujahid Al-Dhaifallah (Saudi Arabia)	
KL-SAC 3	Game dynamics on graphs <i>Hendrik Richter</i> (Germany)

Link: https://meet.google.com/obs-vrkr-dek	<u>Wednesday, 13h30–14h30</u>
Keynote Lecture KL-PSE 3 :	
Chairs : Abdallah Kouzou (Algeria) Lazhar Rahmani (Algeria)	
KL-PSE 3	Multilevel Inverters: Topologies, Modulation and Control Strategies <i>Ebrahim Babaei</i> (Iran)

Link: https://meet.google.com/eus-hrff-gwq	<u>Wednesday, 13h30–14h30</u>
Keynote Lecture KL-CSP 3 :	
Chairs : Omar Daoud (Jordan) Najoua Essoukri Ben Amara (Tunisia)	
KL-CSP 3	The Least Mean Fourth algorithm: A Myth or Reality? <i>Azedine Zerguine</i> (Saudi Arabia)

Link: <https://meet.google.com/xir-xatm-qdr>

Wednesday, 13h30–14h30

Keynote Lecture KL-SCI 3 :

Chairs : Imed Ben Dhaou (Saudi Arabia)
Hatem Trabelsi (Tunisia)

KL-SCI 3 Smart Sensing and AI for Physical Therapy in IoT Era
Octavian Postolache (Portugal)

Link <https://meet.google.com/knk-dbrh-qpo>

Wednesday, 14h30–17h30



Undergraduate Student Competition

Thursday, 25 of March, 2021

Link: https://meet.google.com/knk-dbrh-qpo	Thursday, 8h30–9h15
Plenary Session 4:	
Chairs : Adel Gastli (Qatar) Abdallah Kouzou (Algeria)	
PL-4	Wind Power - A technology enabled by power electronics <i>Frede Blaabjerg</i> (Denmark)

Link: https://meet.google.com/duc-vthx-zrp	Thursday, 9h15–11h15
Session SAC 7 : Intelligent Systems	
Chairs : Faouzi Bouani (Tunisia) Moez Feki (Tunisia)	
SAC 7.1	Speech encryption based on synchronisation of chaotic Takagi-Sugeno systems using PI observer <i>Ahcene Hamoudi; Nadia Djeghali and Maamar Bettayeb</i> (Algeria–UAE)
SAC 7.2	A Comparative Study of BLDC Motor Speed Control Using PI and ANN Regulator <i>Djamel-Eddine Beladjine, Djamel Boudana, Abdelhafidh Moualdia, Mohamed Hallouz and Patrice Wira</i> (Algeria–France)
SAC 7.3	Tracking of trajectory and fault estimation of MIABOT robot using an artificial neural network <i>Dhouha Miri; Atef Khedher and Kamel Benothman</i> (Tunisia)
SAC 7.4	PPDC Design-Based H_∞ Non-Fragile Controller for a Class of Bilinear Systems <i>Chehib Ghorbel and Naceur Benhadj Braïek</i> (Tunisia)
SAC 7.5	Design of Interval Type 2 Fuzzy Adaptive Sliding Mode Control via Backstepping <i>Khalissa Behih; Khier Benmahammed; Djamila Zehar; Aida Chérif and Nabil Derbel</i> (Algeria–Tunisia)
SAC 7.6	Robust Polynomial Observers For Positive Polynomial Fuzzy Systems <i>Imen Iben Ammar; Hamdi Gassara; Ahmed El Hajjaji and Mohamed Chaabane</i> (Tunisia–France)
SAC 7.7	A novel approach for neural controller adapting rate: Application to MIMO non-linear processes <i>Fatma Ezzahra Rhili and Ridha Ben Abdennour</i> (Tunisia)
SAC 7.8	Distributed Control Method for Heterogeneous Multiagent Systems Subjected to Faults <i>Sami Elferik and Muhammad Maaruf</i> (Saudi Arabia)

Link: https://meet.google.com/xir-xatm-qdr	Thursday, 9h15–11h15
Session SCI 7 : Special Session on Nanotechnology & Applications	
Chairs : Cherif Dridi (Germany) Ayda Bouhamed (Germany)	
SCI 7.1	Enhanced Ultraviolet sensing performance of Au/TiO ₂ nanoparticles <i>Fatma Ben Amor; Najeh Hamdaoui; Amine Mezni and Ridha Ajjel</i> .. (Tunisia–Saudi Arabia)

Link: <https://meet.google.com/xir-xatm-qdr>

Thursday, 9h15–11h15

- SCI 7.2 Trapping/detrapping induced negative differential resistance in Cu/Ni:ZnO/InGa Schottky diode
Nejeh Ben mohamed Hamdaoui; Fatma Ben Amor; Amine Mezni and Ridha Ajjel (Tunisia)
- SCI 7.3 Photovoltaic investigation of CPDT based small molecule for BHJ OSC devices
Rania Zaier; Masatoshi Kozaki and Sahbi Ayachi (Tunisia–Japan)
- SCI 7.4 Dry Flexible Electrode Based on MWCNT for LongTerm Health Monitoring ..
Chiraz Naggara; Dhouha Bouchaala; Rajarajan Ramalingame; Nabil Derbel and Olfa Kanoun (Germany–Tunisia)
- SCI 7.5 Investigation of Hybrid Epoxy Composite Electrodes for Electrochemical Applications
Amina Brahem; Ayda Bouhamed; Ammar Al-Hamry; Mounir Ben Ali and Olfa Kanoun (Germany–Tunisia)
- SCI 7.6 Highly-Flexible Piezoelectric Nanogenerator based on BZT/PVDF-HFP for Mechanical Energy Harvesting
Khawla Jeder; Ayda Bouhamed; Hamadi Khemakhem and Olfa Kanoun (Germany–Tunisia)
- SCI 7.7 Comparative Study of Digital Filters for Smart Glove Functionalized with Nanocomposite Strain Sensor
Bilel Ben Atitallah; Jose Roberto Bautista-Quijano; Haythem Ayari; Ahmed Yahia Kallel; Dhouha Bouchaala; Nabil Derbel and Olfa Kanoun (Germany–Tunisia)

Link: <https://meet.google.com/obs-vrkr-dek>

Thursday, 9h15–11h15


Session PSE 8 : Renewable Energies

Chairs : Zied Driss (Tunisia)
Helmi Aloui (Tunisia)

- PSE 8.1 MPPT techniques of the solar PV under partial shading
Amira Lakhdara; Tahar Bahi and Abdelkarim Moussaoui (Algeria)
- PSE 8.2 Comparison of MPPT methods FLC & PSO for PV system under variable irradiance and temperature
Wafa Hayder; Aicha Abid; Mouna Ben Hamed; Emanuele Ogliari and Lassaad Sbita (Tunisia)
- PSE 8.3 Functioning of the Half-Cells Photovoltaic Module in Hybrid EV Under Partial Shading
Oussama Attia; Haifa Souissi; Khalil Makram and Chokri Ben salah . (Tunisia)
- PSE 8.4 Energy management system for a Stand-alone Wind/ Diesel/ BESS/ Fuel-cell Using Dynamic Programming
Mohamed-Hamza Laraki; Brahim Brahmi; Claude Ziad El-Bayeh and Mohammad habibur Rahman (Canada)
- PSE 8.5 Maximum Power Point Tracking Controller for Pumping Photovoltaic System Based on Induction Motor
Abderrazek Saoudi; Saber Krim and Mohamed Faouzi Mimouni (Tunisia–Qatar–Algeria)

Link: https://meet.google.com/obs-vrkr-dek	Thursday, 9h15–11h15
PSE 8.6 Improved Incremental Conductance Algorithm for MPPT in Photovoltaic System <i>Mohamed Hebchi; Abdellah Kouzou and Abdelghani Choucha</i> (Algeria)	
PSE 8.7 Modelling and Simulation of PV Pump Using MPPT Controller <i>Marwah Al-Obaidi; Nabil Derbel; Karim M. Aljebory and Wasan Hashim</i> (Jordan–Tunisia–Iraq)	

Link: https://meet.google.com/eus-hrff-gwq	Thursday, 9h15–11h15
Session CSP 9 : Image & Signal Processing for Medical Applications	
Chairs : Yassine Aribi (Tunisia) Kasim Al-Aubidy (Jordan)	
CSP 9.1 Medical Imaging-based Techniques for Alzheimer’s Disease Detection: A Survey <i>Marwa Zaabi; Nadia Smaoui; Walid Hariri and Houda Ben Jmaa Derbel</i> (Tunisia–Algeria)	
CSP 9.2 MicroRNA expression classification for human disease prediction <i>Ines Slimene; Imen Messaoudi; Afef Elloumi and Zied Lachiri</i> (Tunisia)	
CSP 9.3 On the Early Detection of COVID19 using Advanced Machine Learning Techniques: A Review <i>Mohammed Siddiqui; Mohammed Ali and Mohamed Deriche</i> (Saudi Arabia)	
CSP 9.4 Performance trade-offs of hybrid cryptosystem for medical images encryption - decryption <i>Amal Hafsa; Jihene Malek and Mohsen Machhout</i> (Tunisia)	
CSP 9.5 MR Brain Image Segmentation Optimized by Using Ant Colony Algorithm <i>Dalenda Bouzidi; Fahmi Ghazzi and Ahmed Fakhfakh</i> (Tunisia)	
CSP 9.6 Non-Invasive Microwave CSRR-Based Sensor for Diabetic Foot Ulcers Detection <i>Mohammed Bait-Suwaylam and Issam Bahadur</i> (Oman)	

Thursday, 11h15–11h30

Break

Link: https://meet.google.com/duc-vthx-zrp	Thursday, 11h30–13h00
Session SAC 8 : Special Session on Systems Engineering	
Chairs : Omar Hammami (France) Adel Kallala (Tunisia)	
SAC 8.1 A Top-Down Approach to Ensure the Continuity of the Different Design Levels of Swarm Robots <i>Khalil Aloui; Moncef Hammadi; Amir Guizani; Mohamed Haddar and Thierry Soriano</i> (France–Tunisia)	
SAC 8.2 CAD-MBSE interoperability for the checking of design requirements <i>Rihab Brahmi; Moncef Hammadi; Nizar Aifaoui and Jean-Yves Choley</i> (Tunisia–France)	

Link: https://meet.google.com/duc-vthx-zrp	Thursday, 11h30–13h00
SAC 8.3	A CAD - System engineering interoperability by Enriching CAD database with functional information <i>Amal Allagui; Imen Belhadj; Nizar Aifaoui; Moncef Hammadi and Jean-Yves Choley</i> (Tunisia–France)
SAC 8.4	Mechatronics in a New Context: a Structuring Conceptual Framework Proposal for MBSE <i>Faïda Mhenni and Jean-Yves Choley</i> (France)

Link: https://meet.google.com/obs-vrkr-dek	Thursday, 11h30–13h00
Session PSE 9 : Power Electronics	
Chairs : Mokrani Lakhdar (Algeria) Orabi Mohamed (Egypt)	
PSE 9.1	Hysteresis Current Control & MPPT approach Applied to a Grid - Connected Solar PV System <i>Faouzi Tlili and Faouzi Bacha</i> (Tunisia)
PSE 9.2	Model Predictive Control of grid-connected Hybrid Renewable Energy System . <i>Hemza Bouaouaou, Djafer Lalili and Mohamed Kouissa</i> (Algeria)
PSE 9.3	Modeling of a wind farm associated with back-to-back two-level converters <i>Abdelkader Achar; Abderrahim Bentaallah and Youcef Djeriri</i> (Algeria)
PSE 9.4	DC-DC Buck Converter Control improvement <i>Dhaouadi Guiza; Djamel Ounnas; Youcef Soufi and Abdelmalek Bouden</i> (Algeria)
PSE 9.5	Integration Impact of DRE on the Voltage Stability of Power Network <i>Rajaa Hoteit; Nivine Abou Daher and Hadi Y. Kanaan</i> (Lebanon–Canada)
PSE 9.6	Faults Classification in Grid-Connected Photovoltaic Systems <i>Khadija Attouri; Mansour Hajji; Majdi Mansouri; Hazem N Nounou; Abdelmalek Kouadri and Kais Bouzrara</i> (Tunisia–Qatar–Algeria)

Link: https://meet.google.com/eus-hrfx-gwq	Thursday, 11h30–13h00
Session CSP 10 : Image, Video & Multidimensional Signal Processing	
Chairs : Azzedine Zerguine (Saudi Arabia) Najoua Essoukri Ben Amara (Tunisia)	
CSP 10.1	An Intelligent Image Processing-based Approach to Optimize Vehicle Headlamp Aiming <i>Javad Navaei; Mohammad Babakmehr; Rajeev Kalamdani; Yu-Ning Liu; Shan-shan Qiu; Farhan Javed and Jasper Blackful</i> (USA)
CSP 10.2	Moving object detection system based on the modified temporal difference and OTSU algorithm <i>Oussama Boufares; Mohamed Boussif and Nouredine Aloui</i> (Tunisia)
CSP 10.3	Indoor sign Detection System for Indoor Assistance Navigation <i>Mouna Afif; Riadh Ayachi; Yahia Said and Mohamed Atri</i> (Tunisia–Saudi Arabia)
CSP 10.4	Improvement of Searching Data in MongoDB with the Usage of Oracle Database <i>Roman Ceresnak; Karol Matiasko and Adam Dudas</i> (Slovakia)

Link: <https://meet.google.com/eus-hrfx-gwq> **Thursday, 11h30–13h00**
CSP 10.5 Outcomes-Based Teaching of Electrical Engineering Courses at Qassim University
during the Pandemic
Imed Saad Ben Dhaou (Saudi Arabia–Tunisia)

Link: <https://meet.google.com/knk-dbrh-qpo> **Thursday, 13h00–14h30**

Closure

We are looking forward to seeing you in Setif-Algeria, during the 19th International Multi-Conference on Systems, Signals & Devices, March 17–20, 2022 (SSD'22).
www.ssd-conf.org