



Program

of the Multi-Conference on

Systems, Signals & Devices

April 22-25, 2024

Erbil, Iraq



21st International Multi-Conference on Systems, Signals and Devices (SSD'24)

April 22–25, 2024, Erbil, Iraq

Organized by:

Tishk International University, Erbil, (Iraq)

Philadelphia University (Jordan)

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

Leipzig University of Applied Sciences, (Germany)

Technische Universität Chemnitz (Germany)

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

Ajman University, (UAE)

Supported by:

IEEE Iraq Section

IEEE Jordan Section

IEEE Jordan Section, ComSoc & SPS Chapter

IEEE Germany Section, IM Chapter

Sponsored by:

Tishk International University, Erbil, (Iraq)

Green Circle for Cyber Security, (Jordan)

Preface

Following the success of SSD'01 held in Hammamet-Tunisia in 2001, and the subsequent version of SSD conference since then, we have landed on the twenty first International Multi-Conference on Systems, Signals and Devices - SSD'24 to be held in Erbil, Iraq, from 22nd to the 25th of April 2024. The conference program consists of 6 Plenary Sessions, 8 Keynote Lectures, 1 Seminar and 24 Oral Sessions. SSD'24 multi-conference is organized to include 4 conferences covering different fundamental and applied aspects:

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

SSD'24 secretariat has received 186 submissions from 28 countries: Algeria, Canada, Egypt, Estonia, France, Germany, India, Indonesia, Iraq, Italy, Jordan, Kuwait, Malaysia, Malta, New Zealand, Oman, Pakistan, Poland, Qatar, Saudi Arabia, South Africa, Tunisia, Turkey, United Arab Emirates, United Kingdom, USA, Yemen.

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. Based on the papers reviews, the organizing committee has accepted only 137 papers.

We would like to express our deep gratitude to all chairs and members of the program committee for their sincerity, perseverance and relentless work ethic. 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'24.

Professors Faiq Hussain, Kasim Mousa Al-Aubidy and Ahmed Said Nouri

Erbil, Iraq

April, 2024

General Information

Location

SSD Multiconference has been held at the Tishk International University in Erbil, Iraq. Erbil, also called Hawler (Kurdish: Hewlêr), is the capital and most populated city in the Kurdistan Region of Iraq. The city is in the Erbil Governorate.

Human settlement at Erbil may be dated back to the 5th millennium BC. At the heart of the city is the ancient Citadel of Erbil and Mudhafaria Minaret. The earliest historical reference to the region dates to the Third Dynasty of Ur of Sumer, when King Shulgi mentioned the city of Urbilum. The city was later conquered by the Assyrians.

In the 3rd century BC, Erbil was an independent power in its area. It was conquered for a time by the Gutians. Beginning in the late 2nd century BC, it came under Assyrian control. Subsequent to this, it was part of the geopolitical province of Assyria under several empires in turn, including the Median Empire, the Achaemenid Empire (Achaemenid Assyria), Macedonian Empire, Seleucid Empire, Armenian Empire, Parthian Empire, Roman Assyria and Sasanian Empire, as well as being the capital of the tributary state of Adiabene between the mid-second century BC and early 2nd century AD. In ancient times the patron deity of the city was Ishtar of Arbela.

Following the Muslim conquest of Persia, the region no longer remained united, and during the Middle Ages, the city came to be ruled by the Seljuk and Ottoman empires.

Erbil's archaeological museum houses a large collection of pre-Islamic artifacts, particularly the art of Mesopotamia, and is a centre for archaeological projects in the area. The city was designated as the Arab Tourism Capital 2014 by the Arab Council of Tourism. In July 2014, the Citadel of Erbil was inscribed as a World Heritage Site.

Tishk International University is a private university which was founded in 2008 in Erbil in the Kurdistan region of Iraq. The university started educational service with 5 faculties containing 9 departments on the first campus located on the 60 Meter Avenue. The current faculties and the departments are as follows: Engineering Faculty (Computer Engineering and Civil Engineering), Dentistry Faculty (Dentistry Department), Administrative Sciences and Economics (Economy Department and Business and Management Department), Education Faculty (English Language Teaching Department, Mathematics Teaching Department and Computer Teaching), and Science Faculty (Information Technologies Department, Medical Analysis Department and Physiotherapy Department).

Tishk International University has a vision to be a leading university in the country and region in the areas of education, research and development as well as service to the community by raising lettered individuals with universal ethical values. It's mission includes raising well-prepared, productive and competent individuals with a research-oriented spirit, who possess professional ethics and sensitiveness to the realities of the country and the world, in order to serve fundamental human values; contribute to the improvement of the quality life of humanity based on regional and universal needs.

Erbil is located at 371 km in the north of Baghdad. Erbil can be reached by its international Airport.

Conference Web-Site

► <https://conferences.tiu.edu.iq/ssd/>

► www.ssd-conf.org

The host country Iraq Kurdistan Region-Erbil



Official Language:

The official languages in Iraq are Arabic and Kurdish. The second language is English and is spoken by almost all people. Note that the official language of the SSD is English.

Currency Exchange:

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

1000 Iraq Dinars \approx 0.70 €	1 € \approx 1400 Iraq Dinars
1000 Iraq Dinars \approx 0.76 US\$	1 US\$ \approx 1300 Iraq Dinars

General Chairs

Faiq Hussain (Iraq), Kasim Mousa Al-Aubidy (Jordan) and Ahmed Said Nouri (Tunisia)

General Co-Chairs

Mohamed Deriche (UAE), Abdul-Wahid Al-Saif (Saudi Arabia), Faouzi Derbel (Germany),
Olfa Kanoun (Germany), Abdellah Kouzou (Algeria)

Honorary Chairs

Idriss Hadi (Iraq)
Hans-Rolf Tränkler (Germany)
Nabil Derbel (Tunisia)

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Djemel, Mohamed (Tunisia)	Soufi, Youcef (Algeria)
Feki, Moez (Tunisia)	Trabelsi, Hafedh (Tunisia)

Organizing Committee

Chairs:	Sultan Abu Orabi	Faiq Hussain	Taha Basheer Taha
Members:	Hamid Jasim	Mohammed Sabah	Savriding Khalil
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Alaa Ghazi	Imad Abdullah	Mustafa Zangana	Usman Eshchanor
Amir Fazil	Islam Abdulaziz	Nurullah Darici	Wasan Hashim
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Barham Haider	Jwan Jalal	Rabun Hassan	Yad Sirwan
Ezzadin Hasso	Kenan Kapukaya	Rebin Mohammed	Yasameen Sami
Hakan Bilgin	Kovan Dilawer Issa	Runak Tahir	Zina Sartip
Hala Najwan	Mehmet Ozdemir	Safwan Maulood	

Conference on Communication, Signal Processing & Information Technology

Conference Chairs:

Taha Basheer Taha (Iraq)
Omar Daoud (Kuwait)
Mohamed-Chaker Larabi (France)

Scientific Program Committee:

Abdulbaqi, Alaa (Iraq)	Daoud, Omar (Kuwait)	Kubba, Abbas Rushdi(Tunisia)
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Aldhaifallah, Mujahed (Saudi Arabia)	Hashim, Yasir (Iraq)	Selmi, Kaouther (Tunisia)
Alja'afreh, Saqer (Jordan)	Hasso, Ezideen(Iraq)	Shaban, Ali Shaban (Iraq)
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Al-Sawalmeh, Wael (Jordan)	Ibrahim, Laheeb (Iraq)	Trabelsi, Hafedh (Tunisia)
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Ashir, Abubakar(Iraq)	Khamiss, Nassr (Iraq)	Younis, Ahmed (Iraq)
Damati, Ahlam(Jordan)		

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 Power Systems & Smart Energies

Conference Chairs:

Ezideen Hasso (Iraq), Hafedh Trabelsi (Tunisia), Youcef Soufi (Algeria)

Scientific Program Committee:

Djari , Abdelhamid (Algeria)	Badoud, Abdessalam (Algeria)	Njeh, Anis (Tunisia)
Kouzou, Abdellah (Algeria)	Derbel, Nabil (Tunisia)	Raafat, Safanah (Iraq)
Abid, Hafedh (Tunisia)	Dhaouadi, Guiza (Algeria)	Rahmani, Lazhar (Algeria)
Al-Ani, Muzhir (Iraq)	Hadj Abdallah, Hsan (Tunisia)	Rejab, Mazin (Iraq)
Aldhaifallah, Mujahed (Saudi Arabia)	Hasso, Ezideen (Iraq)	Soufi, Youcef (Algeria)
Almahrouk, Akram (Jordan)	Hmad, Jihed (Tunisia)	Bahi, Tahar (Algeria)
Al-Rousan, Wasseem (Jordan)	Medjdoub, Khessam (Algeria)	Trabelsi, Hafedh (Tunisia)
Al-Samawi, Ali (Tunisia)	Labar, Hocine (Algeria)	Trabelsi, Hatem (Tunisia)
Boukadoum, Aziz (Algeria)	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 Systems, Automation & Control

Conference Chairs:

Mohamed Bani Younis (Jordan)
Mujahed Al-Dhaifallah (Saudi Arabia)
Jawhar Ghommam (Oman)

Scientific Program Committee:

Al-Ani, Muzhir (Iraq)	Al-Naimi, Ibrahim (Oman)	Ghommam, Jawhar (Oman)
Al-Aubidy, Kasim (Jordan)	Al-Rousan, Wasseem (Jordan)	Hamarshah, Qadri (Jordan)
Aldhaifallah, Mujahed (KSA)	Al-Saif, Abdul-Wahid (KSA)	Hashim, Wassan (Jordan)
Al-Ghosoun, Alia (Jordan)	Al-Sulaifanie, Ahmed (Iraq)	Kanoun, Olfa (Germany)
Ali, Mohammed Mehdi (Jordan)	Ashir, Abubakar (Iraq)	Nazer, Anis (Jordan)
Aljebory, Karim (Iraq)	Baniyounis, Mohammed (Jordan)	Nouri, Ahmed Said (Tunisia)
Al-Khawaldeh, Mustafa (Jordan)	Derbel, Nabil (Tunisia)	Raafat, Safanah (Iraq)
Al-Mahasneh, Ahmad (Jordan)	Deriche, Mohamed (UAE)	Trabelsi, Hafedh (Tunisia)
Almahrouk, Akram (Jordan)	Ghaeb, Jasim (Jordan)	

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 network systems
 - of complex networks
 - 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 & prognostics
 - Fault tolerant control
 - Machine learning for fault detection & diagnosis
- Robotics & automation
 - Robotics
 - Traffic control
 - Unmanned aerial vehicles
 - Mechatronics

Conference on Sensors, Circuits & Instrumentation Systems

Conference Chairs:

Hala Najwan (Iraq)
Brahim Mezghani (Tunisia)
Carlo Trigona (Italy)

Scientific Program Committee:

Albarwary, Safa (Iraq)	Gugliandolo, Giovanni (Italy)	Paladini, Giuseppe (Italy)
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Caposciutti, Gianluca (Italy)	Nouri, Ahmed Said (Tunisia)	Soufi, Youcef (Algeria)
Deriche, Mohamed (UAE)	Oletic, Dinko (Croatia)	Trigona, Carlo (Italy)

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



Erbil, Iraq



April 21–25, 2024



SSD'24 Multi-Conference Program

Date	Sunday, April 21	Monday, April, 22	Tuesday, April 23	Wednesday, April 24	Thursday, April 25
09:00		Registration			
09:30		DEDEMAN Hotel	Plenary Session 4	Plenary Session 5	
10:00					
10:30		Opening	Keynote Sessions 1	Keynote Sessions 2	
11:00		Coffee Break	Coffee Break	Coffee Break	
11:30		Plenary Session 1	Parallel Sessions 2 CSP-3, CSP-4 SAC-2, PSE-2, SCI-2	Parallel Sessions 4 CSP-7, CSP-8 SAC-4, PSE-4, SCI-4	
12:00		Plenary Session 2			
12:30		Plenary Session 3			
13:00					
13:30					
14:00					
14:30		Lunch	Lunch	Lunch	Social Program
15:00					
15:30					
16:00	Registration and welcome message	Parallel Sessions 1	Parallel Sessions 3	Parallel Sessions 5	
16:30	DEDEMAN Hotel	CSP-1, CSP-2 SAC-1, PSE-1, SCI-1	CSP-5, CSP-6 SAC-3, PSE-3, SCI-3	CSP-9, CSP-10 SAC-5, PSE-5	
17:00					
17:30					
18:00		PHD Competition	Seminar	Plenary Session 6	
18:30		SSD Meeting		Closure	
19:00				Conference Dinner	
19:30					

The conference will be held at DEDEMAN Hotel on Monday. It will be held at Tishk University on Tuesday and Wednesday

Monday, 22 of April, 2024


Desk Sunday, April 21, 2024, 15h30 (GMT+3)

Registration




Room Hotel-1, Link: <https://zoom.us/j/97372858350> Monday, April 22, 2024, 10h00–11h00

Official Opening



Coffee Hall (DEDEMAN Hotel) Monday, April 22, 2024, 11h00–11h30

Coffee Break



Room Hotel-1, Link: <https://zoom.us/j/97372858350> Monday, April 22, 2024, 11h30–12h00

Plenary Session 1:
Chairs : Kasim Mousa Al-Aubidy (Jordan)
Faiq Hussain (Iraq)

PL-1 Higher Education and Scientific Research in the Arab World
Sultan Abu Orabi (Tishk International University, Iraq)

Room Hotel-1, Link: <https://zoom.us/j/97372858350> Monday, April 22, 2024, 12h00–12h30

Plenary Session 2:
Chairs : Abdul-Wahid Al-Saif (Saudi Arabia)
Mohamed Deriche (UAE)

PL-2 Unleashing the Transformative Power of AI in Engineering Education
Isam Zabalawi (Australian College of Kuwait, Kuwait)

Room Hotel-1, Link: <https://zoom.us/j/97372858350> Monday, April 22, 2024, 12h30–13h30

Plenary Session 3:
Chairs : Omar Daoud (Kuwait)
Taha Basheer Taha (Iraq)

PL-3 Safeguarding Artificial Intelligence by Implementing Authenticity, Safety and Security of Big Data Analytics
Dhiya Al-Jumeily (Liverpool John Moores University, UK)

DEDEMANN Hotel

Monday, April 22, 2024, 13h30–15h30



Lunch

Room Hotel-1, Link: <https://zoom.us/j/97372858350>

Monday, April 22, 2024, 15h30–17h30

Session CSP 1 : Communication Systems 1

Chairs : Ghassan Bilal (Iraq)
Dler Hassan (Iraq)

- CSP 1.1 Performance Analysis of Pilot-Symbol Aided Channel Estimation (PSACE) in FBMC-OQAM System
Thamer M. Jamel; Ali N. Al-Shuwaili; Vain Saad kasim(Iraq)
- CSP 1.2 Semi-Static Cell Differentiation and Integration With Dynamic BBU-RRH Mapping In Open RAN Access Net
Dheyaa Hussein(Iraq)
- CSP 1.3 Investigating Human Impediments to Indoor Visible Light Communications ...
Hajir M Mohsion; Thamer M. Jamel ; Mustafa Dhia Hassib(Iraq)
- CSP 1.4 Channel Coding Technologies in Next-Generation Wireless Systems
Khawla Alnajjar; Sara Al Ali; Hawraa Albanna; Hamda Aljasmii; Sara Almaazmi; Sam Ansari; Abir Jaafar Hussain; Soliman Mahmoud (UAE)
- CSP 1.5 Sustainable Energy Provision in Wireless Sensor Networks: An Overview Leveraging Mobile Sink Strateg
Ali Kadhum M. Al-Quraba; Hadeel Majid Lateef (Iraq)
- CSP 1.6 Detection Systems for Distributed Denial-of-Service (DDoS) Attack Based on Time Series: A Review
Ahmed Adil Nafea; Mustafa Maad Hamdi; Baraa Saad Abdulkakeem; Ahmed Thair Shakir; Mustafa S Ibrahim Alsumaidaie; Ali Muwafaq Shaban Shaban ...
..... (Iraq)

Room Hotel-2, Link: <https://zoom.us/j/92325839407>

Monday, April 22, 2024, 15h30–17h30

Session CSP 2 : Machine Learning Applications 1

Chairs : Taha Basheer Taha (Iraq)
Hussein Alsheakh (Iraq)

- CSP 2.1 Review of: Deep Learning (DL) for Beamforming Array (BFA) Antenna
Thamer M. Jamel ; Hasan Khazaal ; Ali A. Naji(Iraq)
- CSP 2.2 Detecting Routing Protocol Low Power and Lossy Network Attacks Using Machine Learning Techniques
Aythem Khairi Kareem; Ali Muwafaq Shaban Shaban; Ahmed Adil Nafea; Mohammad Aljanabi; Salah A. Aliesawi ; Mohammed M AL-Ani . (Iraq–Malaysia)
- CSP 2.3 Building Clinical Case Report using Machine Learning: Using Different PICO Transformer Approaches
Sabah Mohammed; Jinan Fiadhi; Hashmath Shaik (Canada)

Room Hotel-2, Link: https://zoom.us/j/92325839407	Monday, April 22, 2024, 15h30–17h30
CSP 2.4 Lung Cancer Detection Using Machine Learning and Deep Learning Models ... <i>Khattab M. Ali Alheeti</i> (Iraq)	
CSP 2.5 Restaurant Demand Forecasting Using Dynamic Neural Network for Business Networking Application <i>Ala' Khalifeh; Fatma Abubaker</i> (USA–Jordan)	
CSP 2.6 Automatic deep learning-based myocardial Contours segmentation from Cine MRI Images <i>Narjes Benameur; Mohamed Deriche</i> (Tunisia–UAE)	


Room Hotel-3, Link: https://zoom.us/j/92314863404	Monday, April 22, 2024, 15h30–17h30
Session PSE 1 : Renewable Energy Systems	
Chairs : Wasan Adnan Hashim (Iraq) Rand Basil (Iraq)	
PSE 1.1 ANFIS Based MPPT Controller for DC Motor Drives Supplied by PV Power System <i>Kasim M. Al-Aubidy; Ansam B. El-Fawai; Mustafa Awwad Al-khawaldeh</i> (Jordan)	
PSE 1.2 A Deep Learning Approach for MPPT of PV System: Design and Comparison <i>Kasim M. Al-Aubidy; Izziyyah Mazen Alsudi; Mohammad Rasem Abulaila</i> (Jordan)	
PSE 1.3 Analysis of Perturb and Observe MPPT Under Varying PV Operating Climatic Conditions <i>Abdirahim Ali Addawe; Musaria K. Mahmood; Sulaiman M. Karim; Ahmad Mo- hammad Nezam</i> (Turkey)	
PSE 1.4 Evaluation of Incremental Conductance MPPT Algorithm Und Varying Condi- tions <i>Ahmad Mohammad Nezam; Musaria K. Mahmood; Sulaiman M. Karim; Abdi- rahim Ali Addawe</i> (Turkey)	
PSE 1.5 Design of a cost-effective coaxial magnetic gearbox associated with PMG for wind turbine application <i>Dorra Abdeljalil; Manel Krichen; Naourez Benhadj; Rafik Neji</i> (Tunisia)	

Room Hotel-4, Link: https://zoom.us/j/94467233059	Monday, April 22, 2024, 15h30–17h30
Session SAC 1 : Robotics & Automation	
Chairs : Mohammed Baniyounis (Jordan) Mohamed Njah (Tunisia)	
SAC 1.1 Development of ANFIS Controller for Trajectory Tracking Control Using ROBO2L MATLAB Toolbox for KUKA Industrial Robot via RSI <i>Mohamed Mousa; Mohammed Baniyounis; Ahmad Al-Mahasneh; Jan Falkenhain; Rolf Biesenbach</i> (Jordan–Germany)	
SAC 1.2 Controlling the Movement Path of Leg Exoskeletons through Fractional Order Sliding Mode Control <i>Aicha Znidi; Fatma Abdelhedi; Ahmed Said Nouri; Nabil Derbel</i> (Saudi Arabia–Tunisia)	

Room Hotel-4, Link: https://zoom.us/j/94467233059	Monday, April 22, 2024, 15h30–17h30
SAC 1.3	Object detection with Language Model and Robot Rover for interactive AI - Robot <i>Holan Omeed KuniMohammed</i> (Iraq)
SAC 1.4	Design and Implementation of Fluid Filling Line <i>Safa A. Albarwary; Rand B. Mohammed</i> (Iraq)
SAC 1.5	Design and Implementation of Sorting Robot for Drugstore <i>Ahmed Haval Fattah; Rand B. Mohammed</i> (Iraq)
SAC 1.6	Event-Triggered based Control of Robotic Arm Under Denial of Service <i>Abdulrazaq Nafiu Abubakar; Jamilu Umar Yahaya; Muhammad Maaruf; Muhammad Mysorewala; Abdulwahid A. Saif</i> (Saudi Arabia)

Room Hotel-5, Link: https://zoom.us/j/97926044357	Monday, April 22, 2024, 15h30–17h30
Session SCI 1 : Functional Safety Applications	
Chairs : Hala Najwan Sabeh (Iraq) Abdallah Al-Zoubi (Jordan)	
SCI 1.1	Artwork Transport Tracking: Empowering Reliability Through Smart Packaging <i>Carlo Trigona; Giuliano A. Salerno; Alireza Mehdi; Anna M Gueli; Giuseppe Politi</i> (Italia)
SCI 1.2	Aging Mechanism of Sealed Electric Heating Rods based on the Description of the Failure Modes <i>Paul Kollascheck; Niklas Dreyer; Andreas Pretschner; Faouzi Derbel</i> (Germany)
SCI 1.3	Improved WPT system using a conical coil for charging a Smart device that controls patients with AI <i>Yosra Ben Fadhel; Achraf Derbel; Hatem Garrab; Hedi Trabelsi; Mohamed Deriche; Nabil Derbel</i> (Tunisia–UAE)
SCI 1.4	Development of permittivity sensor for advanced in situ characterization of building material <i>Hashem Al-Mattarneh; Adnan Rawashdeh; Rabah Ismail; Duaa Telfah; Marwa Aljamal; Mohammed Dahim</i> (Jordan–Saudi Arabia)
SCI 1.5	Performance Modeling of Safety Systems with Mutiphase Markov Chains <i>Wahbi Rajhi; Walid Mechri; Mohamed Naceur Abdelkrim</i> (Tunisia)

Room Univ-1, Link: https://zoom.us/j/97372858350	Monday, April 22, 2024, 17h30–18h15
PhD3M contest	
Chairs : Brahim Mezghani (Tunisia), Kasim Mousa Al-Aubidy (Jordan), Carlo Trigona (Italy), Abdallah Kouzou (Algeria), Faiq Hussain (Iraq), Mohamed Deriche (UAE)	

Room Univ-1, Link: https://zoom.us/j/97372858350	Monday, April 22, 2024, 18h15–19h00
	
SSD Meeting	

Tuesday, 23 of April, 2024

Room Univ-1, Link: <https://zoom.us/j/97372858350> Tuesday, April 23, 2024, 9h00–10h00

Plenary Session 4:
Chairs : Carlo Trigona (Italy)
Hala Najwan Sabeh (Iraq)

PL-4 Connectivity, Movement Monitoring, and Mobility Intelligence CM3I
Adnan Al-Anbuky (Auckland University of Technology, Auckland, New Zealand)

Room Univ-1, Link: <https://zoom.us/j/97372858350> Tuesday, April 23, 2024, 10h00–11h00

Keynote Lecture KL-CSP 1:
Chairs : Taha Basheer Taha (Iraq)
Omar Daoud (Kuwait)

KL-CSP 1 The application of Internet of Medical Thing (IoMT)
Ali Selamat (Universiti Teknologi Malaysia, Malaysia)

Room Univ-3, Link: <https://zoom.us/j/92314863404> Tuesday, April 23, 2024, 10h00–11h00

Keynote Lecture KL-PSE 1:
Chairs : Abdul-Bassit Kamel (Iraq)
Hafedh Trabelsi (Tunisia)

KL-PSE 1 Artificial Intelligence for Green Energy Transition
Youcef Soufi (University Echahid Larbi Tebessi, Algeria)

Room Univ-4, Link: <https://zoom.us/j/94467233059> Tuesday, April 23, 2024, 10h00–11h00

Keynote Lecture KL-SAC 1:
Chairs : Nabil Derbel (Tunisia)
Mujahed Al-Dhaifallah (Saudi Arabia)

KL-SAC 1 Swarm Control in Mobility and Defense Application
Sami El Ferik
.... (King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia)


Room Univ-5, Link: <https://zoom.us/j/97926044357> Tuesday, April 23, 2024, 10h00–11h00

Keynote Lecture KL-SCI 1:
Chairs : Yosra Ben Fadhel (Tunisia)
Rand Basil Alhashimie (Iraq)

KL-SCI 1 Living Sensors: Pioneering Sustainable Solutions in the Evolution of Sensors and Transducers
Carlo Trigona (University of Catania, Italy)

Coffee Hall (Tishk University) Tuesday, April 23, 2024, 11h00–11h30

Coffee Break



Room Univ-1, Link: <https://zoom.us/j/97372858350>

Tuesday, April 23, 2024, 11h30–13h30

Session CSP 3 : Image and Video Processing 1

Chairs : Ghassan Bilal (Iraq)
Dler Hassan (Iraq)

- CSP 3.1 Enhancing Communication: Deep Learning for Arabic Sign Language Translation
Alaa Ali; Atheer Alaa Sabri (Iraq)
- CSP 3.2 Survey on Segmentation of Brain Abnormalities in MRI Scan Images
Idrees I. Ahmed; Omar Al Okashi (Iraq)
- CSP 3.3 Using Deep Learning Neural Networks to Recognize and Authenticate the Identity
of the Speaker
Sameeh Abdulghafour Jassim (Iraq)
- CSP 3.4 Demystifying Bone Mineral Density Assessment with Deep Learning: A Compre-
hensive Survey
Woud Majid Abed (Iraq)
- CSP 3.5 FPGA implementation of a Convolutional Neural Network for Alzheimer’s disease
classification
Souha Bel hadj Salah; Marwa Chouchene ; Fatma Ezzahra Sayadi (Tunisia)
- CSP 3.6 Improving Code Smell Detection Using Deep Stacked Autoen-coder
Kadem K. Rehef (Iraq)

Room Univ-2, Link: <https://zoom.us/j/92325839407>

Tuesday, April 23, 2024, 11h30–13h30

Session CSP 4 : Machine Learning Applications 2

Chairs : Omar Daoud (Kuwait)
Hussein Alsheakh (Iraq)

- CSP 4.1 Improve Design Antenna By Using Machine Learning And Material
Azhaar A Shalal (Iraq)
- CSP 4.2 Scaling Siamese Neural Network for Cross-Domain Few Shot Learning in Medical
Imaging
Jinan Fiadhi; Sabah Mohammed (Canada)
- CSP 4.3 Transformer-based Skin Carcinoma Classification using Histopathology Images
via Incremental Learning
Muhammad Imran; Muhammad Usman Akram; Anum Abdul Salam . (Pakistan)
- CSP 4.4 Wearable Saudi Sign Language Recognition Device Based on Neural Network ..
*Rania A. Elmanfaloty; Shouq Algahtani; Rana Zuhairy; Olla Almarghalani;
Mawadda Aljohani* (Egypt– Saudi Arabia))
- CSP 4.5 Design of a Brain Controlled Robotic Arm: Initial Experimental Testing
Fatma Abdelhedi; Lama Aljedaanin; Renad Aldahasi (Saudi Arabia)
- CSP 4.6 LoRa Network Enhancement of Oil Pipelines Leak Detection System based on
Artificial Intelligence
Abbas Rushdi Kubba; Hafedh Trabelsi (Tunisia)

Room Univ-3, Link: <https://zoom.us/j/92314863404>

Tuesday, April 23, 2024, 11h30–13h30

Session PSE 2 : Power Distribution and Control

Chairs : Youcef Soufi (Algeria)
Ezideen Hasso (Iraq)

Room Univ-3, Link: https://zoom.us/j/92314863404	Tuesday, April 23, 2024, 11h30–13h30
PSE 2.1	Control and Energy Management Based on Decoupling Frequency of DC Micro-grid <i>Mohammed Abdulelah Albasheri; Youcef Soufi; O. Bouchhida; Abderrezzack Cherifi</i> (Algeria–France)
PSE 2.2	Efficient Energy Scheduling for Microgrids Under Uncertainty <i>Yousif Ahmed Al-Wajih; Md Shafiullah; Mujahed Aldhaifallah; Ammar Sonbul</i> (Saudi Arabia)
PSE 2.3	Voltage profile improvement based on Optimal Allocation and Sizing Distributed Generation <i>Mushtaq Haddad</i> (Iraq)
PSE 2.4	A Comprehensive Study of Artificial Neural Networks in Power System Stability <i>Shaimaa Shukri Alnakeeb, JR; Wissem Bahloul; Mohamed Chtourou; Nabil Derbel</i> (Iraq–Tunisia)
PSE 2.5	Detecting Secondary Arc Termination Time Based On Change In Total Harmonic Distortion Level <i>Muayad K Ali, Sr; Ahmed A. Allu; Mohammed Yahya Suliman</i> (Iraq)

Room Univ-4, Link: https://zoom.us/j/94467233059	Tuesday, April 23, 2024, 11h30–13h30
Session SAC 2 : Machine learning & Artificial Intelligence in Control	
Chairs : Kasim M. Al-Aubidy and (Jordan) Nabil Derbel (Tunisia)	
SAC 2.1	An Effective Deep Learning Approach for the Estimation of Proton Energy by Using Artificial Neural Network <i>Manar Al-Mahdawi; Aythem Khairi Kareem; Ahmed Adil Nafea; Ali Muwafaq Shaban Shaban; Salah A. Aliesawi; Mohammed M AL-Ani</i> (Iraq–Malaysia)
SAC 2.2	Comparison of PID, Fuzzy Logic, ANFIS and Model Predictive Controllers for Cruise Control System <i>Kasim M. Al-Aubidy; Ahmad Al-Mahasneh; Abdullah Fayez Al- Saoudi</i> (Jordan)
SAC 2.3	Optimal Fractional Order PD Controller For MEMS Gyroscope <i>Mohammad A Faraj; Nabil Derbel</i> (Iraq–Tunisia)
SAC 2.4	Adaptive PID Controller Using Neural Network for Pressure Drop in Nonlinear Fluid Systems <i>Aiman F. Ba Wazir; Nezar Alyazidi; Ala AL-Dogail; Khaled Bin Gaufan; Abdulwahid A. Saif</i> (Saudi Arabia)
SAC 2.5	Digital Twin-based Decision-Making Technique for Diagnostic 2D Environment Line Following Error of Mobile Robot <i>Sanaa Shaker Al Samahi; Izzat Al-Darraji</i> (Iraq)

Room Univ-5, Link: https://zoom.us/j/97926044357	Tuesday, April 23, 2024, 11h30–13h30
Session SCI 2 : Sensor Systems for IoT	
Chairs : Adnan Al-Anbuky (New Zealand) Hala Najwan Sabeh (Iraq)	
SCI 2.1	Experimental Investigations on RF Filters in Wake-up Receiver Circuits <i>Sonia Hmidi; Robert Fromm; Rim Barrak; Faouzi Derbel</i> ... (Tunisia–Germany)

Room Univ-5, Link: https://zoom.us/j/97926044357	Tuesday, April 23, 2024, 11h30–13h30
SCI 2.2	Castello Ursino Museum’s Structural Monitoring Enhanced by Self-Energized Solutions <i>Anna M Gueli; Sebastiano Imposa; Barbara Mancuso; Valter Pinto; Claudia Pirrotta; Giuseppe Politi; Giuliano A. Salerno; Carlo Trigona</i>(Italy)
SCI 2.3	St. Catherine’s Church, Malta: A Self-Powered Measurement System for Preventive Conservation <i>Carlo Trigona; Serena Rapisarda; Sebastiano Damico; Alfred Micallef; Anna M Gueli</i>(Italy)
SCI 2.4	Passive attacks and their recent countermeasures in IoT-based wireless sensor networks: A Review..... <i>Youssef Mansour; Ahmed Khedr; Sam Ansari; Antanios Kaissar; Walid Osamy; Amal AlAli</i> (Egypt–UAE)
SCI 2.5	A Hybrid Filter for Accurate RSSI-based LoRa Distance Estimation Systems in IoT Applications <i>Sabrina Khriji; Murali Kavali; Olfa Kanoun</i> (Tunisia–Germany)
SCI 2.6	Wireless power transfer using Helmholtz coils for powering Gastrointestinal Capsule implants <i>Yosra Ben Fadhel; Kamal Al-Haddad</i> (Tunisia–Canada)

Tishk University	Tuesday, April 23, 2024, 13h30–15h30
	
Lunch	

Room Univ-1, Link: https://zoom.us/j/97372858350	Tuesday, April 23, 2024, 15h30–17h30
Session CSP 5 : Image and Video Processing 2	
Chairs : Kasim Mousa Al-Aubidy (Jordan) Ezideen Hasso (Iraq)	
CSP 5.1	Controlling Mobile Robot Navigation Equipped with Computer Vision Perception for Text using OCR Tech <i>Khansaa Dheyaa ALjafar; Elaf Saeed</i> (Iraq)
CSP 5.2	Generate And Evaluate Encryption Keys Obtained From Iris Biometric Data .. <i>Alaa A AbdulRaheem; Shahd Abdulrhman Hasso</i>(Iraq)
CSP 5.3	A Novel Framework Based on a Hybrid Vision Transformer and Deep Networks for Deepfake Detection <i>Mohamed Deriche; Mohamed Shahin</i> (UAE)
CSP 5.4	An Improved Time-Frequency Based Deep Learning Algorithm for Speech Emotion Recognition <i>Mohamed Deriche; Mahra Al-Ali; Nabil Derbel</i> (UAE–Tunisia)
CSP 5.5	Real-Time Hand Gesture Recognition for Home Automation: A YOLOv8-Based Approach with Identity Verifi <i>Shayda Khalid; Zeynep Kul; Abdullah Salam</i> (Iraq)

Room Univ-1, Link: https://zoom.us/j/97372858350	Tuesday, April 23, 2024, 15h30–17h30
CSP 5.6 A Framework for Segmenting and Classifying Plastic Waste Images using Deep Networks	
<i>Mohamed Deriche</i>	(UAE)

Room Univ-2, Link: https://zoom.us/j/92325839407	Tuesday, April 23, 2024, 15h30–17h30
Session CSP 6 : Networks Security and IoT 1	
Chairs : Omar Daoud (Kuwait) Dler Hassan (Iraq)	
CSP 6.1 Improved Hypergraph Clustering with weighted GRA for Dynamic VANET Environment	
<i>Mays Kareem Jabbar Alsbah; Hafeedh Trabels; Thaar Abdalraheem Kareem</i>	(Tunisia–Iraq)
CSP 6.2 Confident Security Relation for Edge Computing based IoT Applications	
<i>Ahmed Jedidi</i>	(Saudi Arabia)
CSP 6.3 Public Key Infrastructure Approaches Based on Blockchain	
<i>Ali Makki Sagheer; Dena Salim Alani</i>	(Iraq)
CSP 6.4 Employing Invisible Unicode Characters for Preserving Privacy and Enhancing Communication Security	
<i>Iman Almomani; Mahmoud A. Khalifa; Walid El-Shafai</i> (Jordan–Saudi Arabia)	
CSP 6.5 Abusing iOS Permissions: A Security Perspective	
<i>Fares N. Alanazy; Ramzi Saifan; Mousa T. AL-Akhras, Samer Atawneh; Adeb Alhomoud</i>	(Jordan–Saudi Arabia)
CSP 6.6 TIoT: A Trust by Design Architecture for Secure and Private Internet of Things (IoT)	
<i>Hussein S Alsheakh; Hazeem Taher</i>	(Iraq)

Room Univ-3, Link: https://zoom.us/j/92314863404	Tuesday, April 23, 2024, 15h30–17h30
Session PSE 3 : Photovoltaic Systems	
Chairs : Hafeedh Trabelsi (Tunisia) Mazin Rejab (Iraq)	
PSE 3.1 Review mitigation methods of partial shading condition for PV system	
<i>Ali Abedaljabar Al-Samawi; Ahmed Samawi Alkhafaji; Abbas Atiyah; Hafeedh Trabelsi</i>	(Iraq–Tunisia)
PSE 3.2 Energy Management in Multi-Source Power System Based on PV /Wind /Batteries / Diesel Generator Conne	
<i>Abdulwahab Ali Awad; Mohammed Yahya Suliman</i>	(Iraq)
PSE 3.3 Efficient Fuzzy Logic Energy Management in Stand-alone Solar Systems	
<i>Hasan H Shakir Shakir; Fatma Ben Salem</i>	(Tunisia)
PSE 3.4 Solar Energy with AC Voltage Load Based on Harmonic Reduction MLI	
<i>Haitham M Jeber</i>	(Iraq)
PSE 3.5 Real Time PV Solar System Fault Detection for Serbasti Water Pumping System	
<i>Marwah Al-Obaidi; Nabil Derbel; Wassan Adnan Hashim</i> (Jordan–Tunisia–Iraq)	

Room Univ-4, Link: <https://zoom.us/j/94467233059>

Tuesday, April 23, 2024, 15h30–17h30

Session SAC 3 : Linear & Nonlinear System Analysis

Chairs : Abdul-Wahid Al-Saif (Saudi Arabia)
Yasir Hashim (Jordan)

- SAC 3.1 Actuator Fault Estimation Based on Sliding Mode Observer for Continuous-Time Switched Systems
Mohamed Elouni; Habib Hamdi; Bouali Rabaoui; Mickael Rodrigues; Naceur Benhadjbrarik (Tunisia–France)
- SAC 3.2 Comprehensive Evaluation of Drone Control Systems - PID vs. High-Speed Switching Controllers
Yousif Ismail Al Mashhadany; Ali Ahmed Alrawi; Sameer Algburi (Iraq)
- SAC 3.3 Application of a coupled nonlinear observer and control for a semicontinuous chemical reactor
Amira Abdelkader; Moez Boussada; Ahmed Said Nouri; Hammouri Hassan; Koffy Fiaty (Tunisia–France)
- SAC 3.4 Modeling of a rail vehicle's active suspension system to reduce vibrations using an LQR
Ahtisham Urooj; Abdulwahid A. Saif (Saudi Arabia)
- SAC 3.5 Analysis of Robust Control Method for Single Link Flexible Manipulator
Abdulbasit Hassan; Abdullah Ali Hashem Al-Ahdal; Abdulwahid A. Saif; Jamilu Umar Yahaya (Saudi Arabia)
- SAC 3.6 Design and Implementation of Arduino Controlled Mecanum Wheel Robot Car
Mahmood Yashar; Yasir Hashim (Iraq)

Room Univ-5, Link: <https://zoom.us/j/97926044357>

Tuesday, April 23, 2024, 15h30–17h30

Session SCI 3 : Electronic Systems and Technologies

Chairs : Yosra Ben Fadhel (Tunisia)
Safa Anmar Albarwary (Iraq)

- SCI 3.1 The Necessity of Comparators in Wake-Up Receiver Circuits
Robert Fromm; Olfa Kanoun; Faouzi Derbel (Germany)
- SCI 3.2 Improved RSSI Distribution for Indoor Localization Application based on Real Data Measurements
Rihab Souissi; Ilef Ketata; Salwa Sahnoun; Ahmed Fakhfakh; Faouzi Derbel ...
..... (Tunisia–Germany)
- SCI 3.3 Prediction of wood moisture content and strength using free space microwave transmission line NDT
Rabah Ismail; Hashem Al-Mattarneh; Ahmad Malkawi; Musab Abuaddous; Marwa Aljamal; Issam Trrad (Jordan)
- SCI 3.4 Modeling of microwave label-free microfluidic biosensors for cell analysis
Marwa Rezeg; Hassen Zairi; Ammar Al-Hamry; Malak Talbi; adiraju anurag; Olfa Kanoun (Tunisia–Germany)
- SCI 3.5 Design and Optimization of the GaN HEMT Class-J Power Amplifier for 2.4GHz Applications
Marwah Ezzulddin Merza; Khalid Mohammed (Iraq)

Room Univ-5, Link: <https://zoom.us/j/97926044357> **Tuesday, April 23, 2024, 15h30–17h30**

SCI 3.6 Design of a Microstrip Line Sensor with Defective Ground for Estimation of the Relative Permittivity
Swaranpreet Kaur; M. m. Sinha; Dhivakar Rajendran; adiraju anurag; Olfa Kounoun (Germany–India)

Room Univ-1, Link: <https://zoom.us/j/97372858350> **Tuesday, April 23, 2024, 17h30–18h30**

Seminar

Chairs : Sattar Al-Maliky (Iraq)
Hafedh Trabelsi (Tunisia)

Electromagnetic Medical Sensors: From Bench to Bedside
Amin Abbosh (University of Queensland, Australia)
Revolutionizing Sustainability: AI's Role in Smart Building
Muna Dawood Alsallal(Al-Muthanna University, Iraq)

Wednesday, 24 of April, 2024

Room Univ-1, Link: <https://zoom.us/j/97372858350> **Wednesday, April 24, 2024, 9h00–10h00**

Plenary Session 5:

Chairs : Mohammed Baniyounis (Iraq)
Ahmed Said Nouri (Tunisia)

PL-5 Cyber Security Zero To Hero (Employment Program)
Mohammad Alkhudari(Green Circle for Cyber Security, Jordan)

Room Univ-1, Link: <https://zoom.us/j/97372858350> **Wednesday, April 24, 2024, 10h00–11h00**

Keynote Lecture KL-CSP 2 :

Chairs : Omar Daoud (Kuwait)
Abdul-Bassit Kamel (Iraq)

KL-CSP 2 Data science and Industrial Applications
Abir Hussain (University of Sharjah, UAE)

Room Univ-3, Link: <https://zoom.us/j/92314863404> **Wednesday, April 24, 2024, 10h00–11h00**

Keynote Lecture KL-PSE 2 :

Chairs : Youcef Soufi (Algeria)
Ezideen Hasso (Iraq)

KL-PSE 2 Charging the future: Integration of Electric Vehicles in Transportation System
Sertac Bayhan(Hamad Bin Khalifa University, Qatar)

Room Univ-4, Link: <https://zoom.us/j/94467233059> **Wednesday, April 24, 2024, 10h00–11h00**

Keynote Lecture KL-SAC 2 :

Chairs : Ahmed Said Nouri (Tunisia)
Mohammed Baniyounis (Jordan)

KL-SAC 2 Asymptotic Stability of a Fractional Order Sliding Mode Control, Application to Robotic Manipulators
Nabil Derbel (University of Sfax, Tunisia)

Room Univ-5, Link: <https://zoom.us/j/97926044357> **Wednesday, April 24, 2024, 10h00–11h00**

Keynote Lecture KL-SCI 2 :
Chairs : Brahim Mezghani (Tunisia)
 Rand Basil Alhashimie (Iraq)

KL-SCI 2 Piezoelectric vibration energy harvesting with a nonlinear energy sink
Grzegorz Litak (Lublin University of Technology, Poland)

Coffee Hall (Tishk University) **Wednesday, April 24, 2024, 11h00–11h30**



Coffee Break

Room Univ-1, Link: <https://zoom.us/j/97372858350> **Wednesday, April 24, 2024, 11h30–13h30**

Session CSP 7 : AI and Education 1
Chairs : Taha Basheer Taha (Iraq)
 Omar Daoud (Kuwait)

CSP 7.1 Advancing Educational Practices: A Study on Technology Integration in Mosul’s Private Schools
Mohammad Salim (Iraq)

CSP 7.2 Exploring the Usage Levels of ICT among Upper-Class Students at Tishk International University
Togzhan Nurtayeva (Iraq)

CSP 7.3 What drives IT students toward ChatGPT?
Hala Najwan Sabeh (Iraq)

CSP 7.4 Developing a Virtual TIU Campus Tour: Integrating 3D Visualization of University Facilities in VR
Mohammad Salim; Savriddin Khalilov (Iraq)

CSP 7.5 Iraqi legalGPT
Mustafa Basem; Mustafa Samir; Hussein Alaa (Iraq)

Room Univ-2, Link: <https://zoom.us/j/92325839407> **Wednesday, April 24, 2024, 11h30–13h30**

Session CSP 8 : Machine Learning Applications 3
Chairs : Kasim Mousa Al-Aubidy (Jordan)
 Dler Hassan (Iraq)

CSP 8.1 Investigating the Effectiveness of Artificial Intelligence in Watermarking and Steganography for Dig
Wassan Adnan Hashim; Shahab Kareem; Mohammed Saeed; Sarmad A. Altaie (Iraq)

CSP 8.2 Studying the DNA Sequence Using Different Machine Learning: A Review Article
Raghad Muhammed (Iraq)

CSP 8.3 Utilizing Support Vector Machine to Help with Social Robot Therapy for Autism Spectrum Disorder
Hemin Ibrahim; Abdulbasit Al-Talabani; Chu Kiong Loo (Iraq–Malaysia)

CSP 8.4 Detection of Malware by Using YARA Rules
Reyadh Hazim Mahdi ; Hafedh Trabelsi (Iraq–Tunisia)

Room Univ-2, Link: https://zoom.us/j/92325839407	Wednesday, April 24, 2024, 11h30–13h30
CSP 8.5	Big Data in Healthcare: A Review on Applications, Technologies, Benefits and Challenges <i>Raghda Bawaneh; Ala Jallad</i> (Jordan)
CSP 8.6	Academic Evaluation System Using Adaptive Categorization and Authenticated Recommendation <i>Haider Abdula Haddad, Abdulqadir Ismail Abdullah, Qaysar S. Mahdi, Wasfi Kahwachi</i> (Iraq)

Room Univ-3, Link: https://zoom.us/j/92314863404	Wednesday, April 24, 2024, 11h30–13h30
Session PSE 4 : Energy Management	
Chairs : Wasan Adnan Hashim (Iraq) Abubakir Ashir (Iraq)	
PSE 4.1	Electromotive Force Spectrum analysis of IPMSM Under Demagnetization Faults <i>Naourez Benhadj; Manel Krichen; Rafik Neji</i> (Tunisia)
PSE 4.2	Investigating the Impact of Characteristics on Transient Power System Stability During Fault: A Case <i>Wassan Adnan Hashim; Nabil Derbel; Jawad Hamad Hameed; Shahab Kareem</i> (Iraq–Tunisia)
PSE 4.3	Artificial Neural Network For Tracking And Monitoring An Electric Vehicle’s Speed <i>Medjdoub Khessam; Hazzab Abdeldjbar; Anis Njeh; Hafedh Trabelsi; Rezkallah Miloud; Ambrish Chandra</i> (Algeria–Canada)
PSE 4.4	Design, Optimization and Performance analysis of Two In-Wheel Motors Drive Electric Vehicles <i>Lassaad Zaaraoui; Ali Mansouri</i> (Tunisia)
PSE 4.5	Fault Diagnosis Technique Applied to the Pitch System Sensors of a Wind Turbine <i>Saci Abdelmoumen and Cherroun Lakhmissi; Mohamed Nadour; Ahmed Hafaiifa; Abdellah Kouzou</i> (Jordan)

Room Univ-4, Link: https://zoom.us/j/94467233059	Wednesday, April 24, 2024, 11h30–13h30
Session SAC 4 : Transportation Applications and Networks	
Chairs : Ahmed Said Nouri (Tunisia) Sameer Algburi (Iraq)	
SAC 4.1	Robust Fault Detection based on Functional Interval Observers for Multivariable Systems <i>Hanin Mizouri; Rihab Lamouchi; Messaoud Amairi</i> (Tunisia)
SAC 4.2	Q-Learning for Path planning in Complex Environments: A YOLO and Vision-based Approach <i>Yousif Ismail Al Mashhadany; Abduljabbar Khudhur Abduljabbar; Sameer Algburi</i> (Iraq)
SAC 4.3	Design and Implementation of a CNC Plotter Machine Using Arduino and CNC Shield <i>Sara Youns</i> (Iraq)

Room Univ-4, Link: https://zoom.us/j/94467233059	Wednesday, April 24, 2024, 11h30–13h30
SAC 4.4	Establish innovative friendly graphical interface expert system for design of mixing ratios of Self Compacting Concrete <i>Adnan Rawashdeh; Hashem Al-Mattarneh; Rabah Ismail; Hamsa Nimer and Mohanad Khodier; Bashar Mohammed</i> (Jordan–Malaysia)
SAC 4.5	Cloning Image Features from Software Environment to a Hardware Media for Machine Vision Applications <i>Mazin Rejab, Ezideen Hasso, Qusay Hamid Ali</i> (Iraq)
SAC 4.6	Enhancing Traffic Forecasting Accuracy with Fuzzy Data Fusion Learning <i>Abdelatif Sahraoui, Makhlof Derdour and Abdellah Kouzou</i> (Algeria)

Room Univ-5, Link: https://zoom.us/j/97926044357	Wednesday, April 24, 2024, 11h30–13h30
Session SCI 4 : Sensors and Circuits Technology	
Chairs : Adnan Al-Anbuky (New Zealand) Safa Anmar Albarwary (Iraq)	
SCI 4.1	Characterization and Comparison of Bacterial Cellulose/Choline Malonate/EMIM-BF4 Accelerometers <i>Santhosh Kurukunda; Salvatore Cerruto; Salvatore Graziani; Carlo Trigona; Giovanna Di Pasquale; Antonino Pollicino; Kaija Põhako-Esko; Alvo Aabloo</i> (Italy–Estonia)
SCI 4.2	Colorimetric Bubble Sensors Tailored for Temperature Measurements <i>Carlo Trigona; Sara Panebianco; Rosaria Galvagno; Anna M Gueli</i> (Italy)
SCI 4.3	Investigation of a Flexible PDMS-CNT Interconnects nanocomposite for temperature sensors in battery <i>Ahmed Attaoui; Dhivakar Rajendran; Jose Mauricio Rosolen; Olfa Kanoun</i> (Germany)
SCI 4.4	Assessing the electrical properties of DPLF/CNT/PDMS biocomposite using impedance measurements <i>Jawhar Aloulou</i> (Tunisia)
SCI 4.5	Fuzzy Logic Empowerment for Thermoelectric Transducer Performance Optimization <i>Achraf Derbel; Carlo Trigona; Noura Baccar</i> (Tunisia–Italy)
SCI 4.6	Universal Approximator Approach for Fuzzy Modeling in Thermoelectric Generator <i>Achraf Derbel; Carlo Trigona; Noura Baccar; Nabil Derbel</i> (Tunisia–Italy)

Tishk University	Wednesday, April 24, 2024, 13h30–15h30
	
Lunch	

Room Univ-1, Link: <https://zoom.us/j/97372858350>

Wednesday, April 24, 2024, 15h30–17h30

Session CSP 9 : Communication Systems 2

Chairs : Omar Daoud (Kuwait)
Ezideen Hasso (Iraq)

- CSP 9.1 State-of-the-Art Techniques for Energy Saving Enhancement in Cell Differentiation and Integration
Dheyaa Hussein(Iraq)
- CSP 9.2 Supporting V2V communications-based Internet of Drones
Omar R Daoud; Qadri Hamarsheh; Ahlam Damati; Omar Qasem; Mohammad Al Khawaldah(Kuwait–Jordan)
- CSP 9.3 Evaluating the Performance of 5G Modulation and Beyond: A Review Study ..
Huda A Fadhil; Thamer M. Jamel (Iraq)
- CSP 9.4 Implementing of 5G Authentication and Key Agreement Protocol: Practical Security Measures
Rasha Hussein Joudah; Mehdi Ebady Manaa (Iraq)
- CSP 9.5 PAPR Reduction Based on FrFT in OFDM Systems
Fatma Ben Salah; Abdelhakim Khlifi; Rjili Marwa; Belgacem Chibani .(Tunisia)
- CSP 9.6 A Dual-Port, and Single-Element Planar Inverted-F Antenna for Current 4G/5G Portable Applications
Saqer S Alja'afreh; Amjaad T Altakhaineh; Mallak H. Al-Shamaileh; Aser M Matarneh; Omar R Daoud; Mohammad Al Khawaldah (Kuwait–Jordan)
- CSP 9.7 Gain Improvement for Single Band Ultra-Wideband Antenna by Slots Technique
Ansam Q. Kamil; Hasan M. Kadhim; Riyam M. Alsammarraie(Iraq)

Room Univ-2, Link: <https://zoom.us/j/92325839407>

Wednesday, April 24, 2024, 15h30–17h30

Session CSP 10 : Signal Processing

Chairs : Kasim Mousa Al-Aubidy (Jordan)
Taha Basheer Taha (Iraq)

- CSP 10.1 New Rules for Calculating Decimal Number Residue on Primes
Alaa Ghazi Abdulbaqi; Yasir Hashim (Iraq)
- CSP 10.2 Outlier Detection on High-Dimensional Data
Wasan AbdAlMajeed Alani (Iraq)
- CSP 10.3 Exploring High-Dimensional Outlier Detection A Comprehensive Study on Methods and Applications Using PCA and k-NN Algorithm
Wasan AbdAlMajeed Alani; Murtadha Al-Hetee(Iraq)
- CSP 10.4 A Birds Species Detection Utilizing An Effective Hybrid Model
Sara Abbas Rafa; Ahmed Adil Nafea; Mohammed M AL-Ani; Zohaa Mubarak Al-Qfail; Samia F. Abd-Hood; Saeed Amer Alameri (Iraq–Yemen)
- CSP 10.5 EDO: Enhanced Dandelion Optimizer
Reham R Mostfa; Ahmed Khedr(Egypt–UAE)
- CSP 10.6 Asymmetric Optical Injection Locking Model for Semiconductor Lasers
Abdulsalam M. Tonin; Aser M Matarneh; Saqer S. Aljaafreh; Omar R Daoud; Mohammad Al Khawaldah; Hamzah Hmeidi (Kuwait–Jordan)

Room Univ-3, Link: https://zoom.us/j/92314863404	Wednesday, April 24, 2024, 15h30–17h30
Session PSE 5 : Power Systems	
Chairs : Youcef Soufi (Algeria) Qusay Hamid Ali (Iraq)	
PSE 5.1	Static Synchronous Compensator (STATCOM) -based neural network to reducing system oscillations and <i>Raghad Hameed Ahmed; Ahmed Said Nouri</i> (Iraq–Tunisia)
PSE 5.2	Current state and future trends of active management in distribution networks <i>Dheyaa Hussein</i> (Iraq)
PSE 5.3	Model-Based Testing of Instrument Transformers Utilizing Impulse Response Measurements <i>Martin Glaß; Faouzi Derbel</i> (Germany)
PSE 5.4	Performance Evaluation of a CHB-MLI with Multicarrier Techniques Controlled by FPGA <i>Osama Idrees Mohammed; Laith Akram Mohammed; Ahmed M Al-Naib</i> . (Iraq)
PSE 5.5	Power Management for Hybrid Micro Grids System <i>Mohamed A. J. Al-Ani; Nabil Derbel</i> (Iraq–Tunisia)

Room Univ-4, Link: https://zoom.us/j/94467233059	Wednesday, April 24, 2024, 15h30–17h30
Session SAC 5 : Design Methodologies and Applications	
Chairs : Ghassan Bilal (Iraq) Safanah M. Raafat (Iraq)	
SAC 5.1	Simulation and analysis Using Matlab and Simulink of a car suspension system model under different road conditions: A Project-based Learning Approach <i>Faiçal Mnif; Muna Alqam</i> (Oman–Tunisia)
SAC 5.2	Induction Furnace Virtual Temperature Sensor for Based on Robust Adaptive Estimation <i>Waladin Khairi Saïd, Marwa F Jassim, Safanah M Raafat, Omar F Jasim</i> (Iraq–United Kingdom)
SAC 5.3	Intelligent Flood Prediction and Support: Empowering Communication with AI, IOT, and UAV Technology <i>Mateen Alaubaidy; Ashish Sharma</i> (Iraq)
SAC 5.4	A Flatness-Based Trajectory Tracking Control for Chemical Reactor <i>Qasim M. Hamad; Safanah M Raafat</i> (Iraq)
SAC 5.5	FPGA Implementation of High Capacity SD Card using VHDL Language <i>Taha Basheer Taha; Ruzelita Ngadiran; Phaklen Ehkan</i> (Iraq–Malaysia)
SAC 5.6	A Shapley based XAI approach for a turbofan RUL estimation <i>Anouar Bourokba; Ridha Hamdi; Mohamed Njah</i> (Tunisia)

Room Univ-1, Link: https://zoom.us/j/97372858350	Wednesday, April 24, 2024, 17h30–18h15
Plenary Session 6:	
Chairs : Sultan Abu Orabi (Iraq) Mohamed Njah (Tunisia)	
PL-6	Blockchain of things: empowering water 4.0-connectivity, security & sustainability <i>Abdallah Al-Zoubi</i> (Princess Sumaya University for Technology, Jordan)

Room Univ-1, Link: <https://zoom.us/j/97372858350>

Wednesday, April 24, 2024, 18h15–19h00



Closure

Touristic Site

Wednesday, April 24, 2024, 19h00



Conference Dinner

Thursday, 25 of April, 2024

Social Program Erbil

Thursday, April 25, 2024, 9h00–18h00



We are looking forward to seeing you in Monastir-Tunisia, during the 22nd International Multi-Conference on Systems, Signals & Devices, February 17–20, 2025 (SSD'25): www.ssd-conf.org