WELCOME TO
ICAISE’2022
The 4th International Conference on Artificial Intelligence & Smart Environments

CONFERENCE PROGRAM

November, 24th - 26th, 2022,
Errachidia, Morocco

With support of
Moulay Ismail University, Faculty of Sciences and Techniques, Errachidia, Morocco
## ICAISE’22 and Workshops
### Program Time Slots

**Thursday, November 24, 2022**

<table>
<thead>
<tr>
<th>Timing  (GMT+1)</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:00-09:00</td>
<td>Registration</td>
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<tr>
<td>09:00-10:00</td>
<td>Opening Ceremony</td>
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<tr>
<td>10:00-10:30</td>
<td>Coffee Break</td>
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<tr>
<td>10:30-11:30</td>
<td>Keynote Speaker 1</td>
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<tr>
<td>11:30-12:30</td>
<td>ICAISE-Poster Session</td>
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<td>13:00</td>
<td>LUNCH</td>
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<tr>
<td>15:00-16:00</td>
<td>Keynote Speaker 2</td>
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<td>16:00-17:00</td>
<td>Keynote Speaker 3</td>
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<td>17:00-17:15</td>
<td>Coffee Break</td>
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<td>17:15-19:00</td>
<td>ICAISE-S1 ICAISE-S2 ICAISE-S3 ICAISE-S4 ICAISE-S5 IWEERE-S1 IWISEN-S1</td>
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**Friday, November 25, 2022**

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<th>Timing  (GMT+1)</th>
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<td>09:00-10:00</td>
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<td>11:00-11:15</td>
<td>Coffee Break</td>
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<td>11:15</td>
<td>ICAISE-S6 ICAISE-S7 ICAISE-S8 ICAISE-S9</td>
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<td>14:15</td>
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<td>15:30-16:30</td>
<td>Keynote Speaker 6</td>
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<td>16:30-17:30</td>
<td>Keynote Speaker 7</td>
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<td>17:30-17:45</td>
<td>Coffee Break</td>
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<td>17:45</td>
<td>ICAISE-S10 ICAISE-S11 IWEERE-S2 IWISEN-S2 ICAISE-S12</td>
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**Saturday, November 26, 2022**

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<td>09:00-10:00</td>
<td>Keynote Speaker 8</td>
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<td>10:00-11:00</td>
<td>Keynote Speaker 9</td>
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<td>11:00-11:15</td>
<td>Coffee Break</td>
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<td>11:15-12:15</td>
<td>Keynote Speaker 10</td>
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<td>12:15</td>
<td>ICAISE-S13 ICAISE-S14 ICAISE-S15 IWEERE-S3 ICAISE-S16 ICAISE-S17</td>
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<tr>
<td>13:30</td>
<td>LUNCH</td>
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<tr>
<td>15:30</td>
<td>Excursion and Visit to ZIZ Valley</td>
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SYMPOSIA AND WORKSHOPS

IWEERE’2022 : The 1st International Workshop on Electrical Engineering and Renewable Energy
General Chairs :
Dr. Said Ziani, EST, Hassan II University, Casablanca, Morocco
ENSAM, Mohammed V University, Agdal, Morocco

IWISEN 2022 : The 4th International Workshop on Intelligent Systems and Emergent Networks
General Chairs :
Dr. Mohammed FATTAH, EST, Moulay Ismail University, Meknes, Morocco
Dr. Younes BALBOUL, ENSA, USMBA, Fes, Morocco
# DETAILED PROGRAM

**Thursday, November 24, 2022**

<table>
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<tr>
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<tr>
<td>08:00-09:00</td>
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| 09:00-10:00 | Opening Ceremony  
  Wali of the Drâa-Tafilalet region  
  President of Moulay Ismail University, Morocco  
  President of the Provincial Council of Errachidia, Morocco  
  Dean of FST, Errachidia, Morocco  
  Dean of FP, Errachidia, Morocco |
| 10:00-10:30 | Coffee Break |
| 10:30-11:30 | Keynote Speaker 1  
  **Text disambiguation using machine learning and deep learning approaches**  
  Dr. Azzeddine Mazroui, FS, Mohammed First University, Morocco  
  Session Chair: Dr. Imad Zeroual, FST, Moulay Ismail University, Morocco  
  Dr. Mourade Azrour, FST, Moulay Ismail University, Morocco |
| 11:30-13:00 | ICAISE-Poster Session |
| 13:00-15:00 | LUNCH |
| 15:00-16:00 | Keynote Speaker 2  
  **Cloud Architecture of Soft Skills based on Deep Learning**  
  Dr. ASIMI Ahmed, Faculty of Science, Agadir, Morocco  
  Session Chair: Dr. Azzeddine Mazroui, FS, Mohammed First University, Morocco  
  Dr. Ahmad El Allaoui, FST, Moulay Ismail University, Morocco |
| 16:00-17:00 | Keynote Speaker 3  
  **Blockchain Technology in IoT security and Privacy**  
  Dr. Hamed Taherdoost, Faculty member of University Canada West  
  Session Chair: Dr. Said Ziani, EST, Hassan 2nd University, Casablanca, Morocco  
  Dr. Youssef Agrebi Zorgani, ISET Sfax, Tunisia |

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*4th International Conference on Artificial Intelligence and Smart Environments (ICAISE 2022)*
Coffee Break  17:00
Room: Meeting Foyer

Technical Sessions  17:15

ICAISE-S1: Adaptive Systems, Artificial Intelligence and Applications

Session Chair: Dr. Abdelhak Lakhouaja, FS, Mohammed First University, Morocco
Dr. Azzeddine Mazroui, FS, Mohammed First University, Morocco

Room: AMPHI

- Lexical Simplification of Arabic Educational Texts Through a Classification Approach
  Naoual Nassiri, Safae Berrichi, Abdelhak Lakhouaja, Violetta Cavalli-Sforza, Azzeddine Mazroui

- Deep Learning Algorithms for skin cancer classification
  Maryame Oumoullyte, Ahmad El Allaoui, Yousef Farhaoui, Fatima Amounas and Youssef Qaraai

- A new version of the Alkhali Morpho Sys 2 analyzer for contemporary documents
  Samir Belayachi and Mazroui Azzeddine

- Performance Study of Linear and Circular Arrays Based on Wideband DOA Estimation
  Hassan Ougraz, Said Safi, and Miloud Frikel

- Covid-19 dataset analysis: A systematic review
  Anoual El kah and Imad Zeroual

- Impact of Feature Vectorization Methods on Arabic Text Readability Assessment
  Safae Berrichi, Naoual Nassiri, Azzeddine Mazroui, and Abdelhak Lakhouaja

- A new four-ports MIMO Antenna for 5G IoT Applications
  Ouafae Elalaouy, Mohammed Elghzaoui and Jaouad Foshi.

ICAISE-S2: Smart Environment and Applications

Session Chair: Dr. El Miloud JAARA, FS, Mohamed First University, Oujda, Morocco
Dr. El Mostafa Daoudi, FS, Mohamed First University, Oujda, Morocco

Room: Room 1

  ENNABIRHA Wafaa, ABOUDOU Abderraouf, MOUTABIR Ahmed

- Monitoring Energy Consumption of Android apps with AppsDrain
  Ayyoub EL OUTMANI, El Miloud JAARA and Mostafa AZIZI

- The use of the surface response methodology of water pre-treatment for a better demineralization.
  Mariem Ennouhi, Sanaa El Aggadi, Jamal Mabrouki, Amale Boutakiout and Mohammed Alaoui El Belghiti

- Towards an Effective Anomaly Detection in Solar Power Plants Using the AE-LSTM-GA approach
  Mohamed Khalifa BOUTAHIR, Yousef FARHAOUI and Mourade AZROUR

- Towards Cd-free Sb2Sc3 based solar cells using SCAPS-1D
  Abdelmajid El Khalfi, Lhoussayne Et-taya, Abdellah Benami, Mustapha Sahal, Lahoucine Elmaimouni

- Particle Swarm Optimization to Design Microwave Components based Substrate Integrated Waveguide Technology
  Souad Akkader, Hamid Bouyghf, Abdennaceur Baghdad
IWEERE–S1: Electrical Engineering and Renewable Energy

Session Chair: Dr. Said Ziani, EST, Hassan II University, Casablanca, Morocco
Dr. Elamri Abdelkebir, EST, Hassan II University, Casablanca, Morocco

Room: Room 2

- Controller based on backstepping technique control of the permanent magnet synchronous machine (PMSM) applied in an electric vehicle (EV)
  Chaou Youssef, Ziani Said, Daoudia Abdelkarim
- Combination of Renewable Energy Source and Battery for Quality of Service of Connected Objects.
  ENNABIRHA Wafa, ABOUDOU Abderraouof, MOUTABIR Ahmed
- Multi-task Offloading to a MEC Server with Energy and Delay Constraint
  Nouhaila Moussammi, Mohamed El Ghmary, Abdellah Idrissi
- LCL Filter Design and Performance Analysis for PV-Grid Interconnection
  Fadwa BAIJOU, Lhoussine ABAALI
- Elaboration of phosphate glass with controlled release
  El Binna Noureddine, El Abiad Abdelaziz, Hami Wafa, Aouad Hakima
- PI controller and nonlinear backstepping control of Permanent Magnet Synchronous Motor (PMSM)
  Ben Achour Hafid, Ziani Said, El Hassouani Youssef
- Simulation And Analysis Of Buck-Boost Converter Using Sliding Mode Controller For Maximum Power Point Tracking
  B. Bahani, Sana Mouslim, M’hand Oubella, Mohamed Ajaamoum, H Outzguinrimt

ICAISE-S3: Intelligent Systems and Applications,

Session Chair: Dr. Mohamed Merzougui, FSJES, Mohamed First University, Oujda, Morocco

Room: Online

- BPMN to UML transformation for MDA approach to represent an EDM acquisition functionality
  Soufiane Hakkou, Redouane Esbai, mohamed achraf Habri and Lamlili El mazoui Nadori Yasser
- The transformation method from Business Processes Models by BPMN to the class diagram by UML: CIM to PIM.
  Soufiane Hakkou, Redouane Esbai, Med Achraf Habri and Yasser Lamlili El Mazoui Nadori
- Big Data Application in Education:overview
  Hanae Aoulad Ali, Chrayah Mohamed, Bouzidi Abdelhamid
- An Enhanced Medical Diagnosis System for Malaria and Typhoid Fever using Genetic Neuro-Fuzzy System
  Joseph Bamidele AWOTUNDE, Agbotiname Lucky IMOIZE, Dotun Patrick SALAKO and Yousef FARHAOUI
- Smart learning using autonomous chatbot based on NLP techniques
  Khadija El achari, Imane Hilal, Najima Daoudi and Rachida Ajhoun
- Big data and the effectiveness of tourism marketing: A prospective review of the literature
  Naoual BOUHTATI, Majda KAMAL and Lhoussaine ALLA
ICAISE-S4: Intelligent Information Processing,
Session Chair: Dr. Gopalakrishnan S, Christian College of Engineering and Technology, India
Dr. Mrs. T. Chitra, Christian College of Engineering and Technology, India
Room: Online

- Speech Emotion Recognition Using Yet Another Mobile Network Tool
  Mayowa Oyedepo OYEDIRAN, Olufemi Samuel OJO, Salil BHARANY, Abidemi Emmanuel ADENIYI, Agbotiname Lucky IMOIZE, Yousef FARHAOUI, and Joseph Bamidele AWOTUNDE
- The Artificial Intelligence for Modeling and Predicting Small’s Cities Attractiveness
  Khalid Sohaib, Effina Driss and mohamed salem chaabane
- The use of a genetic algorithm to alleviate the limited content issue in a content-based recommendation system.
  Oumaima Stitini, Soulaimane Kaloun, Omar Bencharef
- Towards an Integrated Rough Set and Data Modelling Framework for Data Management and Knowledge Extraction
  Salem Chakhar and Zouhaier Brahmia
- Word Embedding methods of Text Processing in big data a comparative study
  Lahcen Idouglid and Said Tkatek
- Fuzzy Semantic Query Mapping and Processing
  Salem Chakhar and Zouhaier Brahmia
- Vigenère implemented in two chaotic Feistel laps for medical image encryption followed by genetic mutation
  Abid abdellah, Mariem Jarjar, Abdellhamid Benazzi, Abdellatif Jarjar, Youness Qobbi, Samir El Kaddouhi

ICAISE-S5: Internet Of Things & Security,
Session Chair: Dr. Agbotiname Imoize, FE, University of Lagos, Nigeria
Dr. P. Senthil, CAS, India
Room: Online

- Towards Secure SDN-based VANETs Paradigm
  Nabil Nissar, Najib Naja and Abdellah Jamali
- Using the Ethereum blockchain to secure a crowdfunding system in the real estate sector
  Hibatou allah Boulsane, Karim Afdel, Salma El Hajjami
- An Analysis of NDN-IoHT Congestion Control Policies
  Asmaa EL-Bakkouchi, Mohammed ELGhazi, Anas Bouayad, Mohammed Fattah, Mouhime El Bekkali
- An Image Encryption Algorithm based on Substitution and Diffusion Chaotic Boxes
  Youness Qobbi, Abdellah Abid, Samir El Kaddouhi, Abdellatif Jarjar, Mariem Jarjar and Abdelhamid Benazzi
- An image encryption scheme based on DNA sequence operations and chaotic system
  Mariem Jarjar, Abdellah Abid, Youness Qobbi, Samir El Kaddouhi, Abdelhamid Benazzi, Abdellatif Jarjar
- Security of Hadoop Framework in Big data
  Youness Filaly, Nisrine Berros, Hanza Badri, Fatna El mendil, Younes El Bouzekri EL idrissi
IWISEN-S1: Intelligent Systems and Emergent Networks

**Session Chair:** Dr. Mohammed FATTAH, EST, Moulay Ismail University, Morocco
Dr. Younes BALBOUL, ENSA, USMBA, Fes, Morocco

**Room:** Online

- Fuzzy Logic Based Adaptive Second-Order Nonsingular Terminal Sliding Mode Lateral Control for Uncertain Autonomous Vehicle
  Moussa Abdillah, Ayoub Belkheir, Najlae Jennan and El Mehdi Melloul

- Energy Efficiency Optimization Techniques for 5th Generation Cellular Networks
  Macoumba Fall, Balboul Younes, Said Mazer, Mohammed Fattah, Mouhime El Bekkali and Ahmed Dooguy Kora

- Study and design of a 28/38 GHz bi-band MIMO antenna array element for 5G
  Salah-Eddine Didi, Imane Halkhams, Mohammed Fattah, Younes Balboul, Mazer Said and Mouhime El Bekkali

- A New Robust Adaptive Control for a Variable Speed Wind Turbine
  Sanae El Bouassi, Zakaria Chaith and El Mehdi Melloul

- Hybrid Congestion Control Mechanism as a Secured Communication Technology for the Internet of Health Things
  Asmaa El-Bakkouchi, Mohammed El Ghazi, Anas Bouayad, Mohammed Fattah and Mouhime Elbekkali

- Gilbert cell down-conversion mixer for THz Wireless Communication
  Abdeladim El Krouk, Abdelhafid Es-Sagy, Mohammed Fattah, Said Mazer, Mouhime El Bekkali and Mahmoud Mehti

- New low-cost flat microfiltration ceramic membrane based on natural Moroccan clays
  Khadija ELATAOUI, Youssef ELMAGUANA, Mouhssine, Boutaleb Najat ELHADIRI, Mohamed Waqif, Latifa Saadi

- Fake profile identification using Machine Learning
  Fatna elmendili, Fatima zahra louhab, Nisrine Berros, Younes filaly, hanza badri, Younes el idrissi el bouzekri, and mohammed fattah

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**Friday, November 25, 2022**

**Keynote Speaker 4** 09:00

**Decentralized Platform with AI Inspired Cloud-Edge Computing**

**Dr. Gyu Myoung Lee,** Liverpool John Moores University (LJMU), UK

Session Chair: Dr. Ahmed Assimi, Faculty of Science, Ibn Zohr University, Agadir, Morocco
Dr. Youssef Agrebi Zorgani, ISET Sfax, Tunisia

Room: AMPHI

**Keynote Speaker 5** 10:00

**Modelling Digital Economy Via Integrating Innovation And Climate Change**

**Dr. Elsadig Musa Ahmed,** Economics and Technology Management at Multimedia University, Malaysia

Session Chair: Dr. Said Agoujil, ENCG, Moulay Ismail University, Errachidia, Morocco
Room: AMPHI
Coffee Break  11:00
Room: Meeting Foyer

Technical Sessions  11:15

ICAISE-S6: Adaptive Systems, Artificial Intelligence and Applications
Session Chair: Dr. Naoual Nassiri, FS, Mohamed First University, Oujda, Morocco
Dr. Ahmad El Allaoui, FSTE, Moulay Ismail University, Morocco
Room: AMPHI

- A collaborative fog-based healthcare intrusion detection security using Blockchain and Machine Learning
  Maryam Douiba, Said Benkirane, Azidine Guezzaz and Mourade Azrour
- A coupled graph theoretic and deep learning approaches for nonrigid image registration
  Omama El Bahi, Youssef Qaraai and Ahmad El Allaoui
- An Innovative Approach for Supervised Link Prediction using Feature Embedding Methods
  Mohamed Badiy, Fatima Amounas and Saleh Bouarafa
- Explainable Machine Learning for Identifying Malicious Profiles in Online Social Networks.
  Amine SALLAH, El Arbi Abdellaoui Alaoui and Said Agoujil
  A Networked
  Said AZELMAD

ICAISE-S7: Smart Environment and Applications
Session Chair: Dr. Azidine Guezzaz, EST Essaouira, University of Cadi Ayyad Marrakech, Morocco
Dr. Youssef Agrebi Zorgani, ISET Sfax, Tunisia
Room: Room 1

- Artificial Intelligence Applications in Date Palm Cultivation and Production: A Scoping Review
  Abdelaziz Hessane, Ahmed El Youssefi, Yousef Farhaoui, Badraddine Aghoutane, Youssef Qaraai
- Artificial Intelligent-based System for Thermal Comfort Control in Smart Building
  Youssef Boutahri, Amine Tilioua
- Circuit Analysis of Series and Shunt Rectifier Topologies for RF Energy Harvesting Applications At 5.80 GHz
  Salah Ihlou, Ahmed El Abbassi, Abdelmajid El Bakkali, Hafid Tizyi
- Estimation of global irradiation on horizontal plane using artificial neural network
  Mohammed Benchrifa, Jamal Mabrouki and Rachid Tadili
- Artificial Neural Networks Implementation in Embedded Systems for Wireless Air Quality Monitoring
  Fouad Essahlaoui, Nourddine Elhajrat, Ahmed El Abbassi and Rachid Skouri
- Gestion intelligente de la trace via un Blended Learning de langues et communication
  Mohamed NOU

ICAISE-S8: Artificial Intelligence and Applications
Session Chair: Dr. Fatima Amounas, FST-UMI, Errachidia, Morocco
Dr. Youssef El Hassouani, FSTE-UMI, Errachidia, Morocco
Room: Room 2
Multivariate time series forecasting using recurrent neural network for a complex system
Rida EL ABASSI, Jaafar Idrais, Abderrahim Sabour and Yassine El Moudene

Geographic Information System for the study of water resources in Chaiba El Hamra, Mohammed (Morocco)
Jamal Mabrouki, Mohammed Benchrifia, Mariem Ennouhi, karima Azoulay, Imane Bencheikh, Toufik Rachiq, Khadija El-Moustaqim, Naif Al-Jadabi, Mourade Azrour, Abou-elaaz Fatimazahra, Souad El Hajjaji

CF Recommender system Based on Ontology and Nonnegative Matrix Factorization (NMF)
Sajida Mhammedi, Haktim El Massari, Noreddine Gherabi and Amnai Mohamed

ICAISE-S9: Fundamentals in Intelligent Systems and Applications
Session Chair: Dr. Zouhaier Brahmia, University of Sfax, Tunisia
Dr. Said Benkirane, EST, University of Cadi Ayyad Marrakech, Morocco
Room: Online

A Machine Learning-based Model for Energy Efficiency Classification of an Unmanned Aerial Vehicle Joseph Bamidele AWOTUNDE, Micheal Olaolu Arowolo, Agbotiname Lucky IMOIZE, Yousef FARHAOUI, and Abidemi and Emmanuel ADENIYI

Design of an Adaptive Neuro-Fuzzy Inference System for Photovoltaic System Benchikh Salma, Jarou Tarik, Nasri Elmeidi, Lamrani Roa

Energy management strategy based on Neural Network for hybrid renewable system Mohammed Benzaouia, Bekkay Hajji, Rabbi Abdelhamid and Adel Mellit

Evaluating the impact of dataset size on univariate prediction techniques for Moroccan agriculture Rachid Ed-daoudi, Atif Alaoou, Jad ZEROUAOUI, Badia Ettaki, Jamal ZEROUAOUI

Feature selection impact on time series problems for Solar Radiation forecasting Hasna Hisou, Said Benkirane, Azidine Guezzaz, Abderrahim Beni-Hssane

How to define a functional charges copybook for an agricultural robot ? Najia AIT HAMMOU, Hajar MOUSANNIF, Brahim LAKSSIR

Impact of landscape change on hydrological and sediment response of the tleta watershed in northern of Morocco El Harche sanae, Chikhaoui Mohamed, Naimi Mustapha.

Implementation of artificial intelligence methods for solar energy prediction in the Drâa Tafilalet region Abdellatif AIT MANSOUR, Amine TILIOUA, Mohammed TOUZANI

LUNCH 14:15

Keynote Speaker 6 15:30

Utilizing Deep Learning to Secure the IoT System of Smart Cities Against Cyber Threats
Dr. Tanzila Saba, College of Computer and Information Sciences at Prince Sultan University, Riyadh, KSA
Session Chair: Dr. Said Ziani, EST-UH2, Casablanca, Morocco
Room: AMPHI
Keynote Speaker 7  
16:30

**L’Importance De Traitement de Base de Données dans le Monde Digital**

Dr. Ali Khoujmane, Université de Technologie, Texas, USA

Session Chair: Dr. Said Agoujil, ENCG, Moulay Ismail University, Meknes, Morocco
Room: AMPHI

Coffee Break  
17:30-17:45
Room: Meeting Foyer

Technical Sessions  
17:45

**ICAISE-S10: Internet Of Things & Network**
Session Chair: Dr. Mourade Azrour, FSTE, Moulay Ismail University, Morocco
Dr. Imad Zeroual, FSTE, Moulay Ismail University, Morocco
Room: AMPHI

- An Improvement to the Cloud Service Research and Selection System's Usage of the Skyline Algorithm.
  *EL Khammar Imane, Mohamed El Ghmary, Abdellah Idrissi*
- Faster RFID Authentication scheme based on ECC for improving the Security in IoT environment
  *Hind Timouhin, Fatima Amounas and saleh Bouarafa*
- IOT-based intelligent system of real-time data acquisition and transmission for solar photovoltaic features
  *Naima Elyanboiy, Mohamed Khala, Ismail Elabbassi, Nourddine Elhajrat, Sara Teidj, Omar Eloutassi and Choukri Messaoudi*
- IoT-enabled Smart Agriculture: Security Issues and Applications
  *Mouaad Mohy-eddine; Azidine Guezzaz; Said Benkirane; Mourade Azrour;*
- Terahertz Antennas: Application, Research Challenges and Future Directions
  *Amraoui Youssef, Imane Halkhams, Rachid El Alami, Mohammed Ouazzani Jamil, and Hassan Qjidaa*

**ICAISE-S11: Adaptive Systems, Artificial Intelligence and Applications**
Session Chair: Dr. Youssef Qaraai, , FSTE, Moulay Ismail University, Morocco
Dr. Fatima Amounas, FSTE, Moulay Ismail University, Morocco
Room: Room1

- Solving a proposed trafic flow model using deep learning and physical constraint
  *Mourad HADDIOUI, Youssef Qaraai, Said AGOUJIL and Abderrahman BOUHAMIDI*
- The use of Online Social Networks : comparing Moroccan and French communities on Facebook
  *Jaafar Idrais, El Moudene Yassine, Rida El Abbassi and Abderrahim Sabour*
- Virtual Communities Homophily Based on Users Posts in Online Social Networks. Case study: 198 Facebook Public Groups
  *Yassine El Moudene, Jaafar Idrais, Rida el Abbassi, and Abderrahim Sabour*
- yolov2 implementation and optimization for Moroccan traffic sign detection
  *Imane Taouqi, Abdessamad Klilou, Kebir Chaji and Assia Arsalane*
- Using MPI to compare between two protocols that allow Paillier cryptosystem to perform homomorphic multiplication
  Hamid El Bouabidi, Mohamed El Ghmary, Sara Maftah, Mohamed Amnai, Ali Ouacha
- The realization of 5G network booster using various types of antennas
  Ouafae Elalaouy, Mohammed Elghzaoui and Jaouad Foshi.

### IWEERE–S2: Electrical Engineering and Renewable Energy

**Session Chair:** Dr. Said Ziani, EST, Hassan II University, Casablanca, Morocco  
Dr. Elamri Abdelkebir, EST, Hassan II University, Casablanca, Morocco

**Room:** Room 2

- A new proof of the Sobolev Logarithmic Inequality on the circle R/2πZ
  M'hammed OUYAHIA, Ali HAFIDI, Moulay Rchid Sidi Ammi
- A Nonlinear state observer for the sensorless control of the Permanent Magnet Synchronous Motor
  Ben Achour Hafid, Ziani Said, El Hassouani Youssef
- Adaptive Neural fuzzy Inference System (ANFIS) in a grid connected-Fuel cell-Electrolyser-Solar PV-Battery-Super Capacitor Energy storage system management
  Ismail Elabbassi, Naima Elyanboiy, Mohamed Khala, Youssef El hassouani, Omar Eloutassi, Sara Teijd, Monsif Ben Messaoud layti, Choukri Messaoudi
- A review of the application of Artificial Intelligence for weather prediction in Solar Energy: Using Artificial Neural Networks.
  Imad LAABAB, Said ZIANI, Abdellah BENAMI
- Backstepping control of the Permanent Magnet Synchronous Generator (PMSG) used in a wind power system
  Chaou Youssef, Ziani Said, Daoudia Abdelkarim
- A literature review of solar cell overheating control
  Imad LAABAB, Said ZIANI, Abdellah BENAMI

### IWISEN-S2: Intelligent Systems and Emergent Networks

**Session Chair:** Dr. El Mehdi Mellouli, ENSA Fes, Morocco  
Dr. Younes BALBOUL, ENSA, USMBA, Fes, Morocco

**Room:** Online

- Machine Learning Algorithms for Sales Forecasting: Comparative Analysis
  Manal Loukili, Fayçal Messaoudi and Mohammed El Ghazi
- Comparative Analysis of Genetic Algorithm and Particle Swarm Optimization in the Edge and Fog Cloud Runtime Environment
  Saad-Eddine Chafi, Balboul Younes, Mohammed Fattah, Said Mazer and Mouihime El Bekkali
- Disturbance Observer-based Adaptive Sliding Mode Control has parameters optimized by Particle Swarm Optimization for Autonomous Vehicles
  Rachid Alika, El Mehdi Mellouli and El Houssaine Tissir
- Enhancement of red emission of Mn2+ ion by energy transfer of Ag+ ions
  Abdelaziz El Abiad, Wafa Hami And Hakima Aouad
- IoT network attack types by application domains
  Ouijdane Fadli, Younes Balboul, Mohammed Fattah, Said Mazer and Mouihime Elbekkali
- Profiles behavior analysis in Blockchain Social network
  Fatima Anter, Fatna Elmendili, Mohammed Fattah and Nabil Mrani
- Simple Inter-stage Impedance Matching Technique for 5G mm-Wave Systems
  Abdelhafid Es-Saqy, Maryam Abata, Mohammed Fattah, Said Mazer, Mahmoud Mehdi, Mouihime El Bekkali and Catherine Algani
ICAISE-S12: Adaptive Systems, Artificial Intelligence and Applications

Session Chair: Dr. Imad Badi, University of Abdelmalek Essaadi, Morocco
Dr. Abdelkhalak Bahri, University of Abdelmalek Essaadi, Morocco

Room: Online

- Assessing the improvements brought by artificial intelligence on the prediction of the aerodynamic coefficients
  Zerouaoui Jad, Alaoui Alatif, Ettaki Badia and Chakir El Mahjoub

- Business Intelligence Models for E-Government in Mauritania: A survey
  Mohamed El Moustapha El Arby Chrif, Moustapha Mohamed Saleck, Aichertou Cheikh Mohamedou N'Diaye, El Benyay Mohamed Mahmoud

- Emotion detection in real-time video using deep learning
  Moulay Lhabib EL HADI and M'barek NASRI

- Facial Emotion Recognition using a GoogLeNet architecture
  Imane Bouslihim and Walid Cherif

- Efficiency in the availability of indicators of a Datamart based on the Kimball methodology for a baking company
  Samuel Roncal Vidal, Roger Huanca Díaz and Omar L. Loaiza

- Health Surveillance and Management System using WBSNs
  Mohammed MOUTAIB, Tarik AHAJJAM, Mohammed FATTAH, Yousef FARHAOUI, Badraddine AGHOUTANE and Mouhime EL BEKKALI

- Improved Parallel Genetic Algorithm for Fixed Charge Transportation Problem
  Ahmed Lahjouji El Idrissi, Ahmad El Allaoui and Ismail Ezzerrifi Amrani

- Learning Analytics in the teaching of French as a Foreign Language (FLE) and Big Data: What resources? For what skills?
  Sara OUALD CHAIB, Imane JOTI, Samira KHOULJI

Saturday, November 26, 2022

Keynote Speaker 7 09:00

IoT, Big Data Technologies and Predictive Approaches for the Development of Context-driven Applications

Dr. Mohamed BAKHOUYA, International University of Rabat, Morocco

Session Chair: Dr. Ahmed Assimi, Faculty of Science, Agadir, Morocco
Room: AMPHI

Keynote Speaker 8 10:00

Calculation Techniques for Credit Limit Fixation through Spending Power: Using Artificial Intelligence Measurement
Dr. Valliappan Raju, IIUM, Malaysia

Session Chair: Dr. Mohamed BAKHOUYA, International University of Rabat, Morocco
Room: AMPHI

Coffee Break 11:00
Room: Meeting Foyer

Keynote Speaker 9 11:15

Towards trustworthy Artificial Intelligence enabled assistive healthcare technologies
Dr. Amir Hussain, Founding Director of the Centre of AI and Robotics at Edinburgh Napier University, UK

Session Chair: Dr. Ahmed Assimi, Faculty of Science, Agadir, Morocco
Room: AMPHI

Technical Sessions 12:15

ICAISE-S13: Adaptive Systems, Artificial Intelligence and Applications
Session Chair: Dr. Tarik Chanyour, Ain Chock Faculty of Sciences-UH2, Morocco
Room: Online

- A Combined Approach of Computer Vision and NLP for Documents Data Extraction
  Ali Benaisa, Abdelkhalak Bahri and Ahmad El Allaoui
- A deep convolutional Neural Networks for the detection of Breast Cancer Using Mammography Images.
  Nourane Laaffat, Ahmad Outfarouin, Walid Bouarifi, Abdelilah Jraifi
  Fathi El Houssaine, Qafas Aamlam, and Jouilil Youness
- A New CBIR Search Engine with a Vision Transformer Architecture
  Smail Zitam, Imad Zeroual and Said Agoujil
- A new coronary artery stenosis detection method with a Hybrid LSTM-CNN model
  Xavier Lessage, Michal Nedoszytko, Lilian Marey, Said Mahmoudi, Olivier DEBAUCHE, and Sidi MAHMoudI
- A proposed Machine Learning Model for Intrusion Detection in VANET
  Sara AMAOUCHE, Said BENKIRANE, Azidine GUEZZAZ, Mourad AZROUR
- A SWOT Analysis for Healthcare using Machine Learning
  Zineb Sabouri, Noreddine Gherabi, Hakim El Massari, Sajida Mhamedi and Mohamed Amnai
- A Systematic Review on LiDAR-based 3D Object Detection
  Adnan ANOUZLA, Mohamed BAKALI EL MOHAMADI, Nabila ZRIRA, Khadija OUAZZANI TOUHAMI
- Lie-Trotter and Strang-Marchuk Methods for Modeling the 1D-Transport with Reaction Equation
  Inassee EL ARABI, Anas Chaft and Salaheddine Kammouri Alami
ICAISE-S14: Internet Of Things & Network  
**Session Chair:** Dr. Anouar Ragragui, University of Abdelmalek Essaadi, Morocco  
**Room:** Online

- A Comprehensive Analysis of Novel Intrusion Detection Systems for Internet of Things Networks  
  Zouhair Chiba, Noreddine Abghour, Khalid Moussaid, Seddik El Kasmi Alaoui, Tarik Chanyour, and Oumaima Lifandali
- AI applications in smart cities between advantages and security challenge  
  Mohamed Abdedaime, Chaimaa Hazman, Aklam Qafas Mounir Jerry, Azidine Guezzaz
- An Enhanced Artificial Hummingbird Algorithm for workflow scheduling in cloud  
  Adnan Talha, Anas Bouayad, Mohhamed Ouçasah, Cherkaoui Malki
- An intelligent Monitoring Approach Based on WiFi Sensing for Smart Hospital  
  Hicham Boudlal, Mohammed Serrhini, and Ahmed Tahiri
- BDIV: Healthcare Blockchain data integrity schemes verification on storage Cloud  
  Soumia Benkou and Ahmed Asimi
- Experimental assessment of MPPT based on a neural network controller  
  Mohammed Benzaouia, Bekkay Hajji, Rabhi Abdelhamid and Soufyane Benzaouia
- Increasing the efficiency of Industry 4.0 through the use of the digital twin concept  
  Kawtar AGOUZZAL, Ahmed ABBOU, Abdelghani Hajji
- Intrusion detection Framework for IoT-based smart Environments Security  
  Chaimae Hazman, Said Benkirane, Azidine Guezzaz, Mourade Azrour, Mohamed Abdedaime
- PSO Optimization Algorithm for QoS Enhancement in IoT-Enabled WSNs  
  Abdelkader Benelhouri, Hada Idrissi-Saba and Jilali Antari
- Temporal Blockchains for Intelligent Transportation and Autonomous Vehicles Management  
  Zouhaier Brahmia, Fabio Grandi and Rafik Bouaziz
- A sorting-AB approach for an enhanced IDS in cloud environment  
  Hanaa Attou, Azidine Guezzaz, Said Benkirane, and Mourade Azrour

IWEERE–S3: Electrical Engineering and Renewable Energy  
**Session Chair:** Dr. Said Ziani, EST, Hassan II University, Casablanca, Morocco  
Dr. Elamri Abdelkebir, EST, Hassan II University, Casablanca, Morocco  
**Room:** Online

- Towards a Smart Photovoltaic Panel: Numerical and Experimental Study  
  ATIFI Youness, RAIHANI Abdelhadi KISSAOUI Mohammed, HAJJAJI Mohamed, BOUADDI Abella
- Fetal Electrocardiogram Identification Using Statistical Analysis  
  ZIANI Said
- Miniaturized patch Metamaterial Antenna for 5G 3.5 GHz band  
  Abdel-Ali LAABDALI, Youssef Mejdoub, Abdelkebir El Amri and Mohamed Tarbouch
- Practical Implementation of Pseudo-Random Control in Step-down Choppers and its Efficiency in Mitigating Conducted Electromagnetic Emissions
Zakaria M'barki, Youssef Mejdoub, Kaoutar Senhaji Rhazi

- Analysis of Packet Health fields on a WSN MicaZ-Crossbow Platform

Karim LAHMA and Mohamed HAMRAOUI

- A New Robust Adaptive Control for Variable Speed Wind Turbine

Sanae El bouassi, Zakaria Chalh, El Mehdi Mellouli

- Attitude Control of LEO Satellite via LQR based on reaction wheels versus magnetorquer

Taha Ennaciri, Ahmed El Abbassi, Nabil Mrani, Jaouad Foshi.

ICAISE-S15: Artificial Intelligence and Applications
Session Chair: Dr. El Wardani Dadi, Abdelmalek Esaadi University, Morocco
Dr. Aziz Khamjane, Abdelmalek Esaadi University, Morocco
Room: Online

- License Plate Character Recognition system using YOLOv5
  Mohamed El Ghmary, Younes Ouassine and Ali Ouacha

- Machine Learning Application in Precision Marketing: A Systematic Literature Review and Comparative Study
  Nouhaila El Koufi, Abdessamad Belangour, Amine El Koufi and Mounir Sadiq

- Mathematical Modeling of Financial Time Series Volatility: A GARCH Model
  Jouili Youness and Mentagui Driss

- Parallel Genetic Algorithms, parameters and design
  OUISS Mustapha, ETTAOUFIK Abdelaziz, MARZAK Abdelaziz, and TRAGHA Abderrahim

- Prediction of sudden death due to COVID-19 using machine learning models
  Ibtiissam CHOUIA; Sahar SAOUD; Mohamed SADIK

- Road accident forecast using machine learning
  Jihad Satri, Chakib El Mokhi, and Hanaa Hachimi

- Routing protocol based on artificial neural network for vehicular ad hoc networks.
  Bouchra Marzak, Soufiane El Moumni, Mohamed Talea and Zaki Brahmi

ICAISE-S16: Adaptive Systems, Artificial Intelligence and Applications
Session Chair: Dr. Nabil Kannouf, Abdelmalek Esaadi University, Morocco
Room: Online

- Speech Emotion Recognition Using Yet Another Mobile Network Tool
  Mayowa Oyedepo OYEDIRAN, Olufemi Samuel OJO, Salil BHARANY, Abidemi Emmanuel ADENIYI, Agbotiname Lucky IMOIZE, Yousef FARHAOUI, and Joseph Bamidele AWOTUNDE

- The Artificial Intelligence for Modeling and Predicting Small’s Cities Attractiveness
  Khalid Sohaib, Effina Driss and mohamed salem chaabane

- Towards an Integrated Rough Set and Data Modelling Framework for Data Management and Knowledge Extraction
  Salem Chakhar and Zouhaier Brahnia

- Word Embedding methods of Text Processing in big data a comparative study
  Lahcen Iddoglidi and Said Tkatek

- Fuzzy Semantic Query Mapping and Processing
  Salem Chakhar and Zouhaier Brahnia

- Vigenèreme implemented in two chaotic Feistel laps for medical image encryption followed by genetic mutation
<table>
<thead>
<tr>
<th>Abid Abdellah, Mariem Jarjar, Abdellhamid Benazzi, Abdellatif Jarjar, Youness Qobbi, Samir El Kaddouhi</th>
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<tr>
<td>Post-Quantum Key Encapsulation Methods for Password Authenticated Connection Establishment Protocol (PQ-KEM-PACE)</td>
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**ICAISE-S17: Adaptive Systems, Artificial Intelligence and Applications**

**Session Chair:** Dr. Mohamed Ouhda, EST, Sultan Moulay Slimane University, Beni Mellal, Morocco

**Room:** Online

- Prediction Student Performance in E-Learning Environment: Challenge and Opportunity
  
  **Hanae Aoulad Ali, Chrayah Mohamed and Bouzidi Abdelhamid**

- Explainable Prediction of Intelligent DTN Routing
  
  **El arbi Abdellaoua Aliou, Khalid Nassir, Stéphane Cédric Koumétio Tékouabou, and Said Agoujil**

- The English proficiency and the inevitable resort to digitalization: A direction to follow and adopt to guarantee the success of women entrepreneurs in the world of business and enterprises.
  
  **Khalid Lali, Moulay Driss Hanafi**

- CNN-based Deep Features with Ensemble Learning for COVID-19 classification
  
  **Yousra El Idrissi El-Bouzaidi and Otman ABDOUN**

- Mathematical Modeling of Monetary Poverty: Evidence from Moroccan Case
  
  **EL AACHAB Yassine and KAICER Mohammed**

- Investment in digital transformation: A key tool for boosting the competitiveness and visibility of Morocco; higher education institutions.
  
  **Khalid LALLI, Abdellatif CHAKOR, Moulay Driss HANAIFI**

- τJSONPath: A Temporal Extension of the JSONPath Language for the τJSchema Framework
  
  **Zouhaier Brahnia, Fabio Grandi, Sofía Brahnia and Rafik Bouaziz**

- Autism Spectrum Disorder Screening Using Artificial Neural Network
  
  **Mohamed Ikermane and Abdelkrim El Mouatasim**

- Assessing hydrologic impacts of future land cover change scenarios in a Mediterranean watershed
  
  **El Harche sanae, Chikhaoui Mohamed, Naimi Mustapha, Merieme Seif-ennisr, abdelwahed Chaaou**