ICBDAIA'23
The International Conference on Big Data and Artificial Intelligence Applications

3rd – 4th November

High School of Technology Laayoune, Morocco

DETAILED PROGRAM

The 2nd edition of The International Conference on Big Data and Artificial Intelligence Applications ICBDAIA'23

About
ICDAIA'23

On the occasion of the 48rd anniversary of the Moroccan Green March event, Higher School of Technology of Laayoune, Faculty of Medicine and Pharmacy of Laayoune, Ibn Zohr University and Faculty of Sciences of Kenitra, Morocco, is pleased to announce the second edition of The International Conference on Big Data and Artificial Intelligence Applications (ICBDAIA'23). This conference serves as a follow-up to the first edition, The International Workshop on Big Data and Artificial Intelligence Applications (IWBDAIA'23), which was held at the Faculty of Science, Kenitra, Morocco, in May 2023. ICBDAIA'23 is scheduled to take place at the high school of technology (EST), Laayoune, Ibn Zohr University, Morocco, on November 03 and 04, 2023. The primary objective of ICBDAIA'23 is to provide an international platform for the exchange of ideas and information on current research, challenges, applications, research findings, system developments, and practical experiences in the fields of Big Data and artificial intelligence technologies. These fields encompass, but are not limited to, environmental science, agriculture, energy, medicine, education, and the economy. To support and encourage young researchers, ICBDAIA'23 will offer complimentary registration for participants.

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Chair

Prof. Said TKATEK
FACULTY OF SCIENCE, IBN TOFAIL UNIVERSITY
KENITRA

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Prof. Jalal AZEGAGH	ENCG, Ibn Tofail University , Morocco
Prof. Ahlam QAFAS	ENCG, Ibn Tofail University , Morocco
Prof. Ilham BOURIQUI	ENCG, Ibn Tofail University , Morocco

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Prof. Omar LYOUSSOUFI ATTOU	National Center for Scientific and Technical Research (CNRST)

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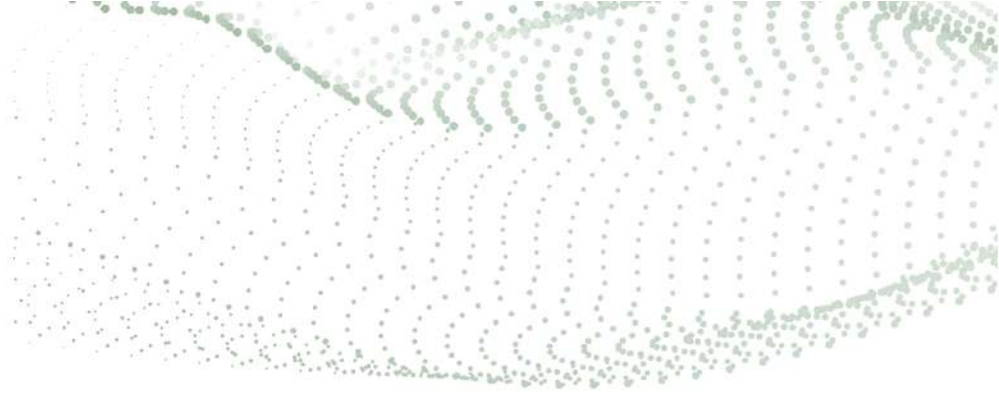| Meriem ZOGARH	Faculty of Science, Ibn Tofail University, Morocco
Nohaila MZIGUEL	Faculty of Science, Ibn Tofail University, Morocco
Oumaima BENLAMHAIRA	Faculty of Science, Ibn Tofail University, Morocco
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Youssef OUKASSOU	Faculty of Science, Ibn Tofail University, Morocco
Saad NAJAR	Faculty of Science, Ibn Tofail University, Morocco
Mouhssine ZIYAD	Faculty of Science, Ibn Tofail University, Morocco

Keynote
Speakers

Prof. Amal EL FALLAH SEGHROUCHNI
Executive President of The International Center
of Artificial Intelligence Of Morocco, Ai Movement
Um6p, Morocco

Pr. Amal El Fallah Seghrouchni was appointed by His Majesty the King of Morocco as a member of the Higher Council of Education, Training and Scientific Research in Morocco. The Royal appointment took place on November 17, 2022 for a 5-year term. Pr. Amal El Fallah Seghrouchni is currently the Executive President of the International Center of Artificial Intelligence of Morocco, Ai movement within the Prestigious Mohammed VI Polytechnic University - Morocco. She is "exceptional class" professor at Sorbonne University, Faculty of Sciences and Engineering – Paris and currently holds the Industrial Chair of Excellence (Digital Twins for Cognitive Radars) funded by Thales at SCAI-Abu-Dhabi. She is a member of the UNESCO World Commission on the Ethics of Scientific and Technology (COMEST) for a 4-year term (January 1, 2020 to December 31, 2023). She is interested in the ethical questions of new areas of scientific and technological research such as Artificial Intelligence, Data Sciences, the Internet of Things, Robotics, etc. She is a member of the expert group of the UNESCO Initiative "AI and the Futures of Learning" for a 2-year term (from November 1, 2022 to October 31, 2024). This expert group is responsible for providing strategic and technical guidance to the initiative to help UNESCO Member States harness the benefits and mitigate the risks of the use of AI in education, l UNESCO has implemented an initiative on AI and the futures of learning. The project is structured around three areas of work: (1) a report proposing recommendations on the future of learning using AI; (2) a guide to ethical principles relating to the use of AI in education; and (3) a guiding framework on AI skills for students. Pr. Amal El Fallah Seghrouchni holds a PhD in computer science at Sorbonne University and a Habilitation toadvise Research in AI at Sorbonne Paris North.

Worldwide expert in Distributed Artificial Intelligence, she was General Chair of AAMAS 2020 - NZ. She has initiated numerous research projects and international collaborations; she has directed 35 Ph.D students and published 24 books or proceedings and over 200 articles. She is passionate about ethical issues of emerging technologies, social issues related to ethics, gender, inclusion and social justice. Member of the World Commission on the Ethics of Scientific Knowledge and Technology of UNESCO (COMEST), she was nominated for the Berkeley World Business Analytics Awards, in the category "Woman of the Year" - 2021 for the African continent. Short presentation of Ai movement (https://aim.um6p.ma/fr/home/) Ai movement, the Moroccan International Center for Artificial Intelligence is a center of excellence in artificial intelligence. It is mainly a regional hub for AI and SD for AI transformation with the following objectives:

• Promote the emergence of Moroccan and African expertise in in artificial intelligence and data science.

• Develop a Moroccan and African human-centered approach based on ethics, responsible and explainable AI for inclusion, harmony and social good and to serve economic and social development

The center offers an executive master program on AI governance & Practice. The program is organized into four certificates: AI Foundations, AI Governance, AI Transformation and AI Applications. Certificates can be taken independently or accumulated towards a master's degree. The center also offers doctoral programs for young researchers to develop AI-based systems around the center's research projects.

Frank WILLIAM DOMONEY

CIO At Anglia Maghreb Smart City London, England

Mr. Frank William Domoney is a Spark, Big Data and Scala Technology Evangelist promoting the use of these technologies as alternatives to Hadoop and Java where appropriate as researcher and entrepreneur. He worked and still working in many projects combining Virtualisation and Cybersecurity Issues and has a role as a Skill Transfer Engineer specialising in Technology evolution and Economic Development. After a thirty year career building Fixed, Mobile and Converged Telecommunications Networks for Vodafone, Three and BT in UK, Germany, France, Kosovo, Moscow and Egypt he saw the massive disruption introduced by Big Data and Blockchain in both technology and business and how they enable Smart Cities. Since then he used to do research studies on NoSQL Databases, Graph Databases and Processing, Cluster Engineering, Stream Processing and Spark deployment and application with University of Essex. His research project is mainly about the "Optimisation of Smart City Infrastructure in Middle Eastern Countries". Genomics processing is enabled by the ADAM package which is based on Spark, and Parquet. These can cope with many file formats including those standardised by the Global Alliance for Health who are promoting global cooperation and interoperability in genomics. Processing Clusters for Genomics can be CPUS, GPUs with CUDA, TPUs for Tensor Processing if they can be obtained from Google or Intel's new Xeon Phi chips which support machine learning. Deep Learning can be applied to Genomics and Frank will be running a Deep Learning workshop that is planned to introduce its application to Genomics and Medical Imagery in October. Natural Language Processing can be applied to searching for relevant research papers and routing them to appropriate researchers Oxford and Cambridge and University of California Berkeley all have very substantial Cancer and Genomics research labs. It would be sensible to integrate the Moroccan research with that of these other centres and running research projects as part of the International Cancer Genome Consortium (ICGC) Frank has learned ten languages in his lifetime and still fluent in six. He has a passion for the reconstruction and transformation of North Africa Middle East and their integration in the EU economy. He has a great interest in the history of the Thirty Years War in Europe.

Prof. Mohamed ESSAAIDI
President Director Of EMSI Group Morocco

The speaker is Professor Mohamed ESSAAIDI, Director of EMSI group and former Director of ENSIAS at Mohammed V University, Rabat, Morocco, and former Director of International Cooperation at the Ministry Delegate to the Head of Government in charge of General Affairs and Governance, Morocco (2019). Since December 2011 he was a Professor of Electrical & Computer Engineering at Abdelmalek Essaadi University, Morocco from 1993 till 2011. He is also Chairman of IEEE Public Safety Technology, (2022), IEEE Blockchain Morocco Group (2022) , from IEEE IoT Global Cities Alliance, MEA (2020-2022), member of the evaluation committee of IEEE Humanitarian Activities Committee (2021-2022), member of IEEE EAB Teaching Excellence Editorial Hub , (2021-2022), and member IEEE Global Committee on Global Accreditation (2017-2018). He was also the founding president of the IEEE Morocco Section (2005-2016). Teacher. ESSAAIDI is a UNESCO and ICESCO expert on engineering training, digital transformation and smart cities. Pr.Essaaidi is the founder and the General Chair of several IEEE technically sponsored the international conferences, including Mediterranean Microwave Symposium (since 2000), Information and Communication Technologies The International Symposium (2005, 2007), The International Conference on Multimedia Systems and Computing i(2009, 2011, 2012, 2014) International Renewable and Sustainable Energy Conference (2011, 2013, 2015) and International Conference on Complex Systems (2012, 2013, 2015). He has also been involved in the Organizing and Scientific Committees of several other international conferences held worldwide. He has also founded several IEEE Student Branches in different Moroccan universities and engineering schools. Furthermore, he has been a nonvoting member of IEEE Global Committee on Accreditation activities since 2015. He has authored and co-authored 5 books and more than 200 papers in the international refereed journals and conferences in the field of Electrical and Information and Communication Technologies

Prof. Fatima Zahra ELHAFIDI ELALAOUI
Dean of Faculty of Medicine, Laâyoune , Morocco

Professor of medicine, specializing in autoimmune diseases, uveitis, inflammatory rheumatism, biotherapies, Fatima Zahra Hafidi Alaoui was recently appointed dean of the Faculty of Medicine and Pharmacy in Laâyoune - Ibn Zohr Agadir University - which will welcome its first students in this month of September 2021. Having accumulated significant experience over three decades, and held several positions of responsibility including head of department 2013-2017, head of nutrition at the Mohammed VI University of Health Sciences, and head of telemedicine Hassan II University 2020-2021, the Professor Alaoui Hafidi takes the direction of the first Faculty of Medicine and Pharmacy in the southern provinces of the Kingdom, which welcomes at its opening 100 students from Laâyoune, Tan-Tan, Sidi Ifni, Tarfaya, Guelmim, Aousserd, Oued Eddahab, Es- Semara, Boujdour and Assa-Zag.

ICBDAIA'23 MAIN PROGRAM

16h00 – 16h30	**Reception and registration of participants on the First Day 03 November 2023**

16h30 – 18h00	**Official opening of the conference** **at the Amphy Conference of the Higher School of Technology, Laayoune** • **Mr. Abdellatif MIRAOUI,** Minister of Higher Education, Scientific Research and Innovation of Morocco • **Mr. Abdesslam BEKRATE**, Wali of the LAAYOUNE SAKIA EL HAMRA Region • **Mr. Moulay Hamdi OULD ERRACHID,** President of the municipality of Laayoune, Morocco • **Mr. Hamdi OULD ERRACHID,** President of the Laayoune Region • **Prof. Mohamed Larbi KERKEB**, President of Ibn Tofail University, Kenitra, Morocco • **Prof. Abdelaziz BENDOU** , President of Ibn Zohr University, Agadir, Morocco • **Prof. Jamila EL ALAMI**, Director of National Center for Scientific and Technical Research (CNRST), Rabat, Morocco • **Prof. Fatima Zahra ELHAFIDI ELALAOUI**, Dean of Faculty of medicine and pharmacy, Laayoune, Morocco • **Prof. Mohamed EBN TOUHAMI**, Dean of Faculty of Science , Ibn Tofail University, Kenitra, Morocco • **Prof. Idrissi Hamid RGUIBI**, Director of the Higher School of Technology, Laayoune, Morocco • **Prof. Said TKATEK**, General Chair of ICBDAIA'23, Faculty of Science, Ibn Tofail University, Kenitra, Morocco • **Mr Badda ALIOUA**, Directeur de TV LAAYOUNE • **Prof. Bouchaib MERMARI**, Ex-president of Sultan Moulay Sliman University, Beni Mellal, Morocco. • **Prof. Jaafar ABOUCHABAKA,** Co-Chair of ICBDAIA'23, Faculty of Science, Kenitra Morocco • **Prof. Youssef FAKHRI**, LaRI Director, Faculty of Science, Ibn Tofail University, Kenitra, Morocco • **Mr. Khalid EL FAYQ**, President of the Moroccan Sahara Association for Science and Artificial Intelligence

18h00 – 18h30	**Coffee Break**

18h30 – 21h00	**Keynote Speakers Session** **(at the Amphy Conference of the Higher School of Technology, Laayoune)** **Speaker 1: Prof. Amal EL FALLAH SEGHROUCHNI** Executive President of Artificial Intelligence Movement - Mohammed VI Polytechnic University (UM6P) **Theme: Artificial Intelligence, a Lever for African Continent's Development** **Speaker 2: Prof Frank WILLIAM DOMONEY** CIO at Anglia Maghreb Smart City London England **Theme: A Whole New World of Opportunity: Quantum AI, Quantum**

	Machine Learning. How to Build an African Quantum Education Program
	Speaker 3: Prof. Mohamed ESSAAIDI
	President Director of EMSI Group, Morocco
	Theme: Smart Homes and Cities
	Speaker 4: Prof. Fatima Zahra ELHAFIDI ELALAOUI
	Dean of Faculty of medicine and pharmacy, Laayoune,
	Theme: E-health in Morocco: Telemedicine experience
	Chairs
	• **Prof. Said TKATEK**, Faculty of Science, Ibn Tofail University, Morocco
	• **Prof. Jaafar ABOUCHABAKA**, Faculty of Science, Ibn Tofail University, Morocco
21h00 – 22h00	**Dinner**

09h00 – 09h30	**Reception and registration of participants on the First Day 03 November 2023 (at Higher School of Technology, Laayoune)**
09h30 – 11h00	**Oral session 1** *(At Room 1, Higher School of Technology)*
	Topic 1: Artificial Intelligence Applications: Healthcare, Agriculture, Economy...
	Chairs
	• **Prof. Mohamed AMNAI,** Faculty of Science, Ibn Tofail University, Morocco
	• **Prof. Adil EL MAKRANI,** Faculty of Science, Ibn Tofail University, Morocco
	Oral session 2 *(At Room 3, Higher School of Technology)*
	Topic 2: Big Data Analytics and IoT Applications
	Chairs
	• **Prof. Abdelghani SOUHAR,** Faculty of Science, Ibn Tofail University, Morocco
	• **Prof. Youssef FAKHRI,** Faculty of Science, Ibn Tofail University, Morocco
	Oral session 3 *(At Room 3, Higher School of Technology)*
	Topic 3: Image Processing, NLP, IA Modeling, Optimization, Cloud computing and others
	Chairs
	• **Prof. Jaafar ABOUCHABAKA,** Faculty of Science, Ibn Tofail University, Morocco
	• **Prof. Najat RAFALIA,** Faculty of Science, Ibn Tofail University, Morocco

11h00 – 11h30	Coffee Break
11h30 – 13h00	**Oral session 4** *(Local 1)* *Topic 1: Artificial Intelligence Applications: Healthcare, Agriculture, Economy...* <u>Chairs</u> • **Prof. Mohamed AMNAI,** Faculty of Science, Ibn Tofail University, Morocco • **Prof. Ali CHOUKRI,** Faculty of Science, Ibn Tofail University, Morocco
	Oral session 5 *(Local 2)* *Topic 2: Big Data Analytics and IoT Applications* <u>Chairs</u> • **Prof. Abdelghani SOUHAR,** Faculty of Science, Ibn Tofail University, Morocco • **Prof. Youssef FAKHRI,** Faculty of Science, Ibn Tofail University, Morocco
	Oral session 6 *(Local 3)* *Topic 3: Image Processing, NLP, IA Modeling, Optimization, Cloud computing and others* <u>Chairs</u> • **Prof. Adil EL MAKRANI,** Faculty of Science, Ibn Tofail University, Morocco • **Prof. KHABID SIDATI,** EST, Laayoune, Ibn Zohr University, Morocco
13h00 – 14h00	Lunch

	The second day, November 4, 2023 **(at Faculty of Medicine and Pharmacy, Laayoune)**
09h00– 11h00	**Oral session 7 *(VIRTUAL)* At Room 1, Faculty of Medicine and Pharmacy** *Topic 2: Big Data Analytics and IoT Applications* *Topic 3: Image Processing, NLP, IA Modeling, Optimization, Cloud computing and others* **Chairs** • **Prof. Mohamed AMNAI,** Faculty of Science, Ibn Tofail University, Morocco • **Prof. KHABID SIDATI,** EST, Laayoune, Ibn Zohr University, Morocco
	Oral session 8 *(VIRTUAL)* At Room 2, Faculty of Medicine and Pharmacy *Topic 1: Artificial Intelligence Applications: Healthcare, Agriculture, Economy...* *Topic 3: Image Processing, NLP, IA Modeling, Optimization, Cloud computing and others* **Chairs** • **Prof. Abdelghani SOUHAR,** Faculty of Science, Ibn Tofail University, Morocco • **Prof. Adil El Makrani,** Faculty of Science, Ibn Tofail University, Morocco
	Oral session 9 *(At Room 3, Faculty of Medicine and Pharmacy)* *Topic 3: Image Processing, NLP, IA Modeling, Optimization, Cloud computing and others* **Chairs** • **Prof. Youssef FAKHRI,** Faculty of Science, Ibn Tofail University, Morocco • **Prof. Jaafar ABOUCHABAKA,** Faculty of Science, Ibn Tofail University, Morocco
11h00- 11h30	**Coffee Break**
11h30 – 12h30	**Recommendation and Closing of the conference** **(at Faculty of Medicine and Pharmacy, Laayoune)**
	• **Prof. Fatima Zahra ELHAFIDI ELALAOUI**, Dean of Faculty of Medicine and Pharmacy, Laayoune, Morocco • **Prof. Idrissi Hamid RGUIBI,** Higher School of Technology, Laayoune, Morocco • **Prof. Said TKATEK**, Faculty of Science, Ibn Tofail University, Morocco • **Prof. ABOUCHABAKA Jaafar**, Faculty of Science, Ibn Tofail University, Morocco • **Prof. Youssef FAKHRI,** LaRI Director, Faculty of Science, Ibn Tofail University, Morocco
13h30 – 14h30	**Lunch**
14h30 – 18h00	**Excursion in Laâyoune**

ICBDAIA'23 DETAILED PROGRAM

16h00 – 16h30	Reception and registration of participants on the First Day 03 November 2023

16h30 – 18h00	**Official opening of the conference** **(at the Conference Hall of Municipality Library, Laayoune)** • **Mr. Abdellatif MIRAOUI,** Minister of Higher Education, Scientific Research and Innovation of Morocco • **Mr. Abdesslam BEKRATE**, Wali of the LAAYOUNE SAKIA EL HAMRA Region • **Mr. Moulay Hamdi OULD ERRACHID,** President of the municipality of Laayoune, Morocco • **Mr. Hamdi OULD ERRACHID,** President of the Laayoune Region • **Prof. Mohamed Larbi KERKEB**, President of Ibn Tofail University, Kenitra, Morocco • **Prof. Abdelaziz BENDOU** , President of Ibn Zohr University, Agadir, Morocco • **Prof. Jamila EL ALAMI**, Director of National Center for Scientific and Technical Research (CNRST), Rabat, Morocco • **Prof. Fatima Zahra ELHAFIDI ELALAOUI**, Dean of Faculty of medicine and pharmacy, Laayoune, Morocco • **Prof. Mohamed EBN TOUHAMI**, Dean of Faculty of Science , Ibn Tofail University, Kenitra, Morocco • **Prof. Idrissi Hamid RGUIBI**, Director of the Higher School of Technology, Laayoune, Morocco • **Prof. Said TKATEK**, General Chair of ICBDAIA'23, Faculty of Science, Ibn Tofail University, Kenitra, Morocco • **Mr. Badda ALIOUA**, Directeur de TV LAAYOUNE • **Prof. Bouchaib MERMARI**, Ex-president of Sultan Moulay Sliman University, Beni Mellal, Morocco. • **Prof. Jaafar ABOUCHABAKA,** Co-Chair of ICBDAIA'23, Faculty of Science, Kenitra Morocco • **Prof. Youssef FAKHRI**, LaRI Director, Faculty of Science, Ibn Tofail University, Kenitra, Morocco • **Mr. Khalid EL FAYQ**, President of the Moroccan Sahara Association for Science and Artificial Intelligence

18h00 – 18h30	**Coffee Break**

18h30 – 21h00	**Keynote Speakers Session** **(at the Amphy Conference of the Higher School of Technology, Laayoune)** **Speaker 1: Prof. Amal EL FALLAH SEGHROUCHNI** Executive President of Artificial Intelligence Movement - Mohammed VI Polytechnic University (UM6P) **Theme: Artificial Intelligence, a Lever for African Continent's Development** **Speaker 2: Prof Frank WILLIAM DOMONEY** CIO at Anglia Maghreb Smart City London England **Theme: A Whole New World of Opportunity: Quantum AI, Quantum Machine Learning. How to Build an African Quantum Education Program**

	Speaker 3: Prof. Mohamed ESSAAIDI President Director of EMSI Group, Morocco **Theme: Smart Homes and Cities** **Speaker 4: Prof. Fatima Zahra ELHAFIDI ELALAOUI** Dean of Faculty of medicine and pharmacy, Laayoune, **Theme: E health in Morocco: Telemedicine experience** **Chairs** • **Prof. Said TKATEK**, Faculty of Science, Ibn Tofail University, Morocco • **Prof. Jaafar ABOUCHABAKA**, Faculty of Science, Ibn Tofail University, Morocco
21h00 – 22h00	**Dinner**

09h00 – 09h30	**Reception and registration of participants on the First Day 03 November 2023 (at Higher School of Technology, Laayoune)**
Oral Session 1	*Topic 1: Artificial Intelligence Applications: Healthcare, Agriculture, Economy…* *At Room 1, Higher School of Technology, from 09h30 – 11h00*
Chairs	**Prof. Mohamed AMNAI,** Faculty of Science, Ibn Tofail University, Morocco **Prof. Adil EL MAKRANI,** Faculty of Science, Ibn Tofail University, Morocco
Paper # 1	Idriss Moumen, Jaafar Abouchabaka, Najat Rafalia and Oussama Aziz *"Predictive Classification of Traffic Incidents in Intelligent Transportation Systems using Machine Learning", Ibn Tofail University Kenitra, Morocco*
Paper # 2	Asmae Elfakak, Ilham El Haraoui and Mohammed Qmichchou *"The impact of e-service quality on e-trust and repurchase intention", Ibn Tofail University Kenitra, Morocco*
Paper # 3	Hamza Ettakifi and Said Tkatek *"A hybrid Approach Sing Convolutional Neural Networks and Genetic Algorithm to Improve of Sensing Brain Tumor Prediction", Ibn Tofail University Kenitra, Morocco*
Paper # 4	Khalid El Fayq, Said Tkatek and Lahcen Idouglid *"Use of Machine Learning Algorithms and Social Media Analysis for Earthquake Situation Management in Moroccan Television", Ibn Tofail University Kenitra, Morocco*
Paper # 5	Jamal Eddine Rafiq, Abdelali Zakrani, Said Nouh and Mohammed Amraouy *"Enhancing Online Learning Performance through LSTM Based Emotional State Analysis and Active Participation", HASSAN II University, Morocco*

Paper # 6	Dounia Challi, Jamila Dahmani, Elhabib Jdi and Nadia Belahbib *"Impact of climate change on the bioclimate of the Sidi Boughaba biological reserve, Kénitra"*, *Ibn Tofail University Kenitra, Morocco*
Paper # 7	Ouhaddach Moussa, Ech-cheddadi Sara and Mouhssine Fatine *"Study of the effect of drought on agro-physiological parameters at different growth stages in four varieties of durum wheat (Triticum durum Desf.)"*, *Ibn Tofail University, Morocco*
Oral Session 2	**Topic 2: Big Data Analytics and IoT Applications** *At Room 2, Higher School of Technology, from 09h30 – 11h00*
Chairs	**Prof. Abdelghani SOUHAR,** Faculty of Science, Ibn Tofail University, Morocco **Prof. Youssef FAKHRI,** Faculty of Science, Ibn Tofail University, Morocco
Paper # 8	Lahcen Idouglid, Said Tkatek, Khalid Elfayq and Azidine Guezzaz *"Enhancing Industry 4.0 Security: Intrusion Detection Systems and Machine Learning for IIoT"*, *Ibn Tofail University Kenitra, Morocco*
Paper # 9	Abbdelaaziz El Ansari, Najiba El Amrani El Idrissi and Hassan Yakkou *"A broadband microstrip patch antenna Based Graphene for THz 6G utilizations"*, *USMBA, Morocco*
Paper # 10	Abbdelaaziz El Ansari, Najiba El Amrani El Idrissi and Hassan Yakkou *"A Wideband Dual-Beam Phased Array Antenna Based on Hybrid Coupler for ISM Band 2.4 GHz Applications"*, *USMBA, Morocco*
Paper # 11	Hassan Yakkou, Abdelhakim Chillali and Nacer Eddine Elkadri Elyamani *"The importance of mobile devices in the learning of physics among Moroccan university students"*, *Mohammed ben abdellah university. Morocco*
Paper # 12	Abbdelaaziz El Ansari, Najiba El Amrani El Idrissi and Hassan Yakkou *"A Miniaturized 1x2 array antenna using a bent quarter wave impedance transformer for RFID Reader 2.45 GHz utilizations"*, *USMBA, Morocco*
Oral Session 3	**Topic 3: Image Processing, NLP, IA Modeling, Optimization, Cloud computing and others** *At Room 3, Higher School of Technology, from 09h30 – 11h00*
Chairs	**Prof. Jaafar ABOUCHABAKA,** Faculty of Science, Ibn Tofail University, Morocco **Prof. Najat RAFALIA,** Faculty of Science, Ibn Tofail University, Morocco

Paper # 13	Salim Salmi and Lahcen Oughdir *"Automatic Detection of Safety Requests in Web and Mobile Applications Using Natural Language Processing Techniques", Sidi Mohamed ben Abdellah university, morocco*
Paper # 14	Oussama Gliti, Mohammed Igouzal and Mohamed Chafik El Idrissi *"Enhancing Solar-Selective Absorber Prediction in Water Desalination Applications through Grey Wolf Optimization and Deep Learning Models", Ibn Tofail University kenitra, Morocco*
Paper # 15	Abdelhafid Berroukham, Khalid Housni and Mohammed Lahraichi *"Vision Transformers: From Theory to Implementation", Ibn Tofail University kenitra, Morocco*
Paper # 16	Nohaila Mziguel, Ali Choukri and Mohamed Amnai *"Interactive system for the detection of user's personality", Ibn Tofail University kenitra, Morocco*
Paper # 17	Adib Oubadriss, Jalal Laassiri and Adil El Makrani *"Grape Leaf disease identification and classification using optimized deep learning", Ibn Tofail University kenitra, Morocco*
Paper # 18	Mehdi Daldali and Abdelghani Souhar *"Text Line Segmentation of Handwritten Arabic Documents Using Parallel Multi-Agent Evolutionary Seam Carving", Ibn Tofail University kenitra, Morocco*
11h00 – 11h30	**Coffee Break**
Oral Session 4	*Topic 1: Artificial Intelligence Applications: Healthcare, Agriculture, Economy...* *At Room 1, Higher School of Technology, from 11h30 – 13h00*
Chairs	**Prof. Mohamed AMNAI,** Faculty of Science, Ibn Tofail University, Morocco **Prof. Ali CHOUKRI,** Faculty of Science, Ibn Tofail University, Morocco
Paper # 19	Abubakar Wakili, Sara Bakkali and Salihu Aish Abdulkarim *"Machine Learning in Digital Forensics: A Critical Analysis of Current Techniques and Future Opportunities", Euromed University of Fez, Morocco*
Paper # 20	Isah Abubakar Ndakara, Moad Essabbar and Hajar Saikouk *"Blood Glucose Control in Children with Type-1 Diabetes Adopting the Fuzzy Logic Scheme", Euromed University of Fez, Morocco*

Paper # 21	Kaloma Usman Majikumna and Mhamed Zineddine *"Impacts of Climate Change on Olive Trees and Land Use Land Cover Changes in the Meknes Region: A Comparative Analysis for 2019 and 2023", Euromed University of Fez, Morocco*
Paper # 22	Hasna Hissou, Said Benkirane and Azidine Guezzaz *"Investigating the Influence of Feature Selection on Time Series Forecasting for Solar Radiation.", University chouaib dokkali, Morocco*
Paper # 23	Mohamed Akouhar, Abdallah Abarda and Mohamed Elfatini *"A Deep Learning-Integrated Resampling Approach for Enhancing Credit Card Fraud Detection", Ibn Tofail University Kenitra, Morocco*
Paper # 24	Anass Messaoud, Sakina Belhamidi and Azzedine Elmidaoui *"Activated Sludge (AS) and Sequencing Batch Reactor (SBR) technologies for wastewater treatment of Ibn Tofail University: Performances evaluation and comparative study", Ibn Tofail University Kenitra, Morocco*
Paper # 25	Farah Aabouch, Badr Satrani and Jamila Dahmani *"Antibacterial Activity and Chemical Composition of Thymus zygis Essential Oil", Ibn Tofail University Kenitra, Morocco*
Paper # 26	Musa Mustapha and Mhamed Zineddine *"Analysis and Evaluation of Al-Wahda Dam Surface Water Changes Using Sentinel-2 Spectral Indices", Euro-Mediterranean University of Fes, Morocco*
Oral Session 5	*Topic 2: Big Data Analytics and IoT Applications* *At Room 2, Higher School of Technology, from 11h30 – 13h00*
Chairs	**Prof. Abdelghani SOUHAR,** Faculty of Science, Ibn Tofail University, Morocco **Prof. Youssef FAKHRI,** Faculty of Science, Ibn Tofail University, Morocco
Paper # 27	Abdeslem El Ouazzani Chahdi, Mohamed Tahiri and Hassan Yakkou *"Effective Integration of Information and Communication Technologies in the Reverse Classroom Approach: Analysis, Issues and Best Practices", Sultan Moulay Slimane Univresity, Morroco*
Paper # 28	Kamal Bella, Azidine Guezzaz and Said Benkirane *"Transformer Architecture for Intrusion Detection Systems in IoT: A Brief Survey", Cadi Ayyad University, Morocco*
Paper # 29	Mouaad Mohy-Eddine, Azidine Guezzaz and Said Benkirane *"A Monitoring System with Artificial Neural Network in IoT-enabled Smart Farming Security", Cadi Ayyad University, Morocco*

Paper # 30	Abubakar Wakili and Sara Bakkali *"Intrusion Detection in 5G Networks using Machine Learning: A Comparative Analysis", Euromed University of Fez, Morocco*
Paper # 31	Abubakar Wakili and Sara Bakkali *"An Optimized and Secured Routing Protocol for IoT Platforms Using a Hybrid Approach and an Artificial Intelligence Algorithm", Euromed University of Fez, Morocco*
Oral Session 6	*Topic 3: Image Processing, NLP, IA Modeling, Optimization, Cloud computing and others* *At Room 3, Higher School of Technology, from 11h30 – 13h00*
Chairs	**Prof. Adil EL MAKRANI,** Faculty of Science, Ibn Tofail University, Morocco **Prof. KHABID SIDATI,** EST, Laayoune, Ibn Zohr University, Morocco
Paper # 32	Soumaya Zahid, Mohamed Chakraoui and Naoual Mouhni *"Analyzing Deep Learning Models: A Case Study of Semantic Segmentation in Radiological Image", Sultan Moulay Slimane University, Beni Mellal, Morocco*
Paper # 33	Mustapha Benbarka and Moulay Abdellah Kassimi *"TOPICScore: Evaluating Automatic Text Summarization using Embeddings, Occurrences, and Topic Detection", Ibn Zohr University, Morocco*
Paper # 34	Mounir Maaitat *"Application Of Noise Diffusion Image Generation Models In Climate Change Simulation And Ecosystem Restoration", UNIVERSIAPOLIS, Morocco*
Paper # 35	Omar Boubker, Mohammed Abdessadek and Rachid Sabbahi *"Unveiling the Transformative Effects of OpenAI's ChatGPT on PhD Student Achievement.", Ibn Zohr University, Morocco*
Paper # 36	Ayoub Ouroui, Youssef Fakhri and Siham Boulaknadel *"Automatic classification of emails using Deep Learning", Ibn Tofail University Kenitra, Morocco*
Paper # 37	Fouad Lehlou, Jalal Laassiri and Adil El Makrani *"An Experimental Comparison of Machine/Deep Learning Models for Facial Emotion Recognition", Ibn Tofail University Kenitra, Morocco*
13h00 – 14h00	**Lunch**

The second day, November 4, 2023 (at Faculty of Medecine and Pharmacy, Laayoune)	
Oral session 7 **(V I R T U A L)**	*Topic 2: Big Data Analytics and IoT Applications* *Topic 3: Image Processing, NLP, IA Modeling, Optimization, Cloud computing and others* *At Room 1, Faculty of Medicine and Pharmacy, from 09h00 to 11h00*
Chairs	**Prof. Mohamed AMNAI,** Faculty of Science, Ibn Tofail University, Morocco **Prof. KHABID SIDATI**, EST, Laayoune, Ibn Zohr University, Morocco
Paper # 38	Bhavana Kaushik *"Image Splicing Detection: A Deep Learning based Approach", University of Petroleum and Energy Studies, India*
Paper # 39	Pascal Muam Mah *"Internet everywhere: An Integration of IoTs with RFID & GPS for a global security and a digitalized transparency", AGH University of Science and Technology, Krakow, Poland*
Paper # 40	Dahmani Rachid and Benammi Mohamed *"Towards innovative solutions for moving from slum to smart cities", ibn Tofail university Morocco*
Paper # 41	Hrishikesh Deshpande *"Evaluating the Ethical Implications of Large Language Models", Symbiosis Skills and Professional University, India*
Paper # 42	Ismail Moumen , Mourad El Habchi, Mohamed Nabil Srifi and Raja Touahni *"Energy-Efficient Circular Antennas for UWB and Bluetooth Applications Using Metamaterials", Faculty of Science, Ibn Tofail University, Kenitra, Morocco*
Paper # 43	Zakaria Enneffah, Youssef Fakhri and Siham Boulaknadel *"Exploring and Processing Historical Archival Resources in Arabic Manuscripts: Providing a clear understanding of the procedures and issues involved in working with Arabic manuscripts as cultural heritage materials. Complexity of character recognition and approaches to semantic indexing", Faculty of Science, Ibn Tofail University, Kenitra, Morocco*
Oral session 8 **(V I R T U A L)**	*Topic 1: Artificial Intelligence Applications: Healthcare, Agriculture, Economy...* *Topic 3: Image Processing, NLP, IA Modeling, Optimization, Cloud computing and others* *At Room 2, Faculty of Medicine and Pharmacy, from 09h00 to 11h00*

Chairs	Prof. Abdelghani SOUHAR, Faculty of Science, Ibn Tofail University, Morocco Prof. Adil EL MAKRANI, Faculty of Science, Ibn Tofail University, Morocco
Paper # 44	Zakaria Al Bakkari, Adil El Makrani and Ikram El Azami *"a Hybrid Model LSTM-CNN with Attention Mechanism to forecast stock market index", Faculty of Science, Ibn Tofail University, Kenitra, Morocco*
Paper # 45	Mohammed Bouziani Idrissi, Idriss Moumen, Koray Sayin and Hassan Oudda *"Machine Learning for Predicting Mild Steel Corrosion Inhibitors in Acidic Media", Faculty of Science, Ibn Tofail University, Kenitra, Morocco*
Paper # 46	Simran Jot Kaur, Vinay Singh and Swoichha Adhikari *"Discernment of Cyclists in Aerial Images", Thapar Institute of Engineering & Technology, Patiala, India*
Paper # 47	Abdelkrim Saouabe, Said Tkatek and Hicham Oualla *"Enhancing Visual Search with Content-Based Image Retrieval", Faculty of Sciences, Ibn Tofail University, Morocco*
Paper # 48	Azzeddin Touazit, Oussama Gliti and Fakhreddine Boukil *"Optimization of Salt Water Intrusion in Sebou Estuary (Morocco) Using Particle Swarm Optimization Technic", Ibn Tofail University, Kenitra, Morocco*
Paper # 49	Omar Elrhaouat, Abdelmajid Chafik and Sakina Belhamidi *"Prediction of self-efficacy of university students through supervised classification via artificial neural learning", Ibn Tofail University, Kenitra, Morocco*
Paper #50	Fadila Lazar, Pr. Abdelrhani Bouayad *"The impact of change management on human ressources management in the era of crisis case of moroccan companies", University moulay Ismail, Meknes*
Oral session 9	*Topic 3: Image Processing, NLP, IA Modeling, Optimization, Cloud computing and others* *At Room 3, Faculty of Medicine and Pharmacy, from 09h00 to 11h00*
Chairs	Prof. Youssef FAKHRI, Faculty of Science, Ibn Tofail University, Morocco Prof. Jaafar ABOUCHABAKA, Faculty of Science, Ibn Tofail University, Morocco
Paper # 51	Chaimae Hazman, Said Benkirane and Azidine Guezzaz *"A Collaborative Intrusion Detection Model using Deep Learning and Blockchain", Cadi Ayyad University, Morocco*

Paper # 52	Sara Amaouche, Azidine Guezzaz and Said Benkirane *"Framework for Intrusion Detection in VANET Environments using AdaBoost and Chi-Squared", Cadi Ayyad University, Morocco*
Paper # 53	Hajar El Karch, Rachid Elgouri, Mohamed Benally and Abdelkader Mezouari *"Novel PV Array Soiling Detection Approach with Deep Learning Using TensorFlow Framework", Ibn Tofail University Kenitra, Morocco*
Paper # 54	Mohamed Ouhssini, Karim Afdel, Mohamed Akouhar, Elhafed Agherrabi and Abdallah Abarda *"An Explainable Deep Learning Model for Detecting DDoS Attacks in Cloud Computing Environments", University IBN zohr Agadir, Morocco*
Paper # 55	Aidan Lee *"Evaluating the Performance of Machine Learning Algorithms for Stock Forecasting", Thomas Jefferson High School for Science and Technology*
Paper # 56	Abderrahman Laabidi, Said Tkatek and Mohammed Ouhssine *"Prediction of self-efficacy of university students through supervised classification via artificial neural learning", Ibn Tofail University, Kenitra, Morocco*
Paper # 57	Chamssidine Mohamed Irma and Zytoune Ouadoudi *"Traffic Optimization Using Artificial Intelligence : a review , Kénitra, Morocco", Ibn Tofail University, Kenitra, Morocco*
Paper # 58	Ismail Zaidi, Youssef Fakhri and Mohamed Amnai *"Using Hidden Markov Models For Information Extraction Of Text Data", Ibn Tofail University, Kenitra, Morocco*
11h00- 11h30	**Coffee Break**
11h30 – 12h30	**Recommendation and Closing of the conference** **(at Faculty of Medecine and Pharmacy, Laayoune)**
	• **Prof. Fatima Zahra ELHAFIDI ELALAOUI** , Dean of Faculty of Medicine and Pharmacy, Laayoune, Morocco • **Prof. Idrissi Hamid RGUIBI,** Higher School of Technology, Laayoune, Morocco • **Prof. Said TKATEK,** Faculty of Science, Ibn Tofail University, Morocco • **Prof. ABOUCHABAKA Jaafar,** Faculty of Science, Ibn Tofail University, Morocco • **Prof. Youssef FAKHRI,** LaRI Director, Faculty of Science, Ibn Tofail University, Morocco
13h30 – 14h30	**Lunch**
14h30 – 18h00	**Excursion in Laâyoune**

☑ Technologies, Services and Application of Big Data and Applications
☑ Big Data Analytics and Data Integration
☑ Deep Learning Neural Network
☑ Artificial intelligence and Internet of Things and its Applications
☑ Knowledge representation; Knowledge-based Systems
☑ Natural language processing
☑ Smart Agriculture and Irrigation System
☑ Environmental Analytics and Climate Change
☑ Water Management
☑ Soil Science and Agricultural Chemistry
☑ Healthcare and Medical Diagnostics
☑ Physical and Chemical analytics
☑ Logistics
☑ Entreprise, Economics, Commerce and Marketing
☑ Energy and Utilities Automated financial investing
☑ Optimization methods for Big Data & AI
☑ Bioinformatics
☑ Smart Homes and Cities
☑ Image Recognition
☑ Social Media Features
☑ Social impact of AI
☑ Sentiment Analysis
☑ Human Ressources Management

ICBDAIA'23 TOPICS

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