UNIVERSITÉ HASSAN II DE CASABLANCA

INTERNATIONAL CONFERENCE ON CONNECTED OBJECTS AND ARTIFICIAL INTELLIGENCE (COCIA'2023)

Ecole Supérieure de Technologie
Université Hassan II de Casablanca

Laboratoire de Recherche en Réseaux,
Informatique, Télécommunication et Multimédia

Association Marocaine des Chercheurs en Technologie et IA

Association Groupe Technique
Spécialisé en Intelligence Artificielle
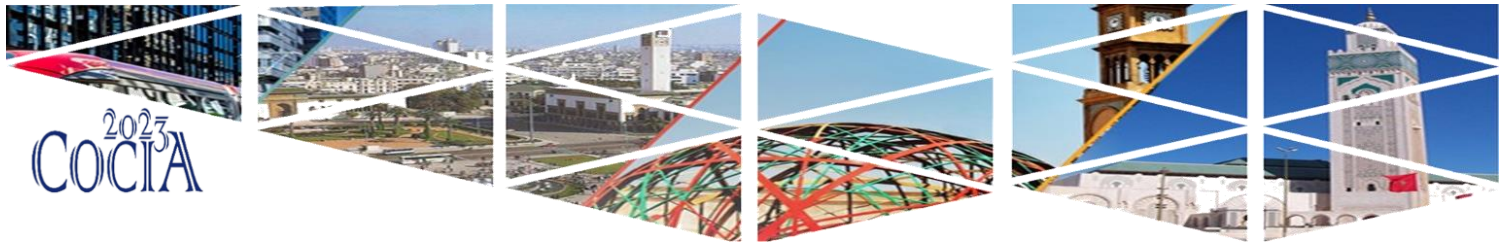جمعية المجموعة التقنية المتخصصة
في الذكاء الإصطناعي

Conference Program

MARCH 08 -09, 2023 – EST CASABLANCA – MOROCCO

WELCOME MESSAGE

Dear Colleagues and Friends,

On behalf of the organizing committee, We are delighted to welcome you to the First International Conference on Connected Object and Artificial Intelligence **(COCIA'2023),** after the great success of the first edition of the International Symposium on Connected Objects and Systems (COC'2019) held at EST Casablanca, Morocco 2019. To broaden the disciplinary field in order to bring together scientists, researchers and professionals working on other themes (Intelligent Systems, Artificial Intelligence, Telecommunications, ...), the local committee of this edition has decided to launch the first edition of the International Conference on Connected Objects and Artificial Intelligence (**COCIA'2023**).

The **COCIA'2023** will be held as an onsite event from March 08-09, 2023 in Casablanca, Morocco.

The **COCIA'2023** aims to create high-quality exchange channels to consolidate interactions between researchers and industrialists, strengthen their links with scientific and technological actors and thus allow better visibility in the field of objects, systems. connected, Telecommunications and Artificial Intelligence. and aims to exchange research ideas and future trends, and to explore potential collaboration opportunities.

At this event, four-renowned plenary speakers will provide outstanding insights and dealing with major scientific topics in the field of connected objects, telecommunications and artificial intelligence. In addition, several thematic sessions presenting research work in the form of lectures and posters.

The COCIA'203 has succeeded to attract several participants from different universities, A very rich and attractive scientific program covering multiple aspects of various topics is designed to provide an excellent opportunity for networking, dissemination and, exchange of innovative research findings related to different issues and topics.

Finally, we wish all the participants in COCIA'2023 a very successful and fruitful conference and We hope you enjoy your time with us and we look forward to meeting you all in the next edition of the COCIA conference
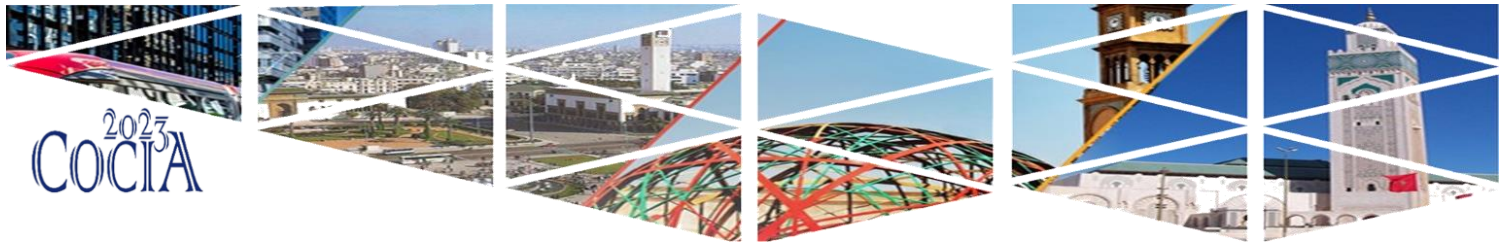
General Chairs

Prof. Youssef MEJDOUB
(ESTC, UH2C, Casablanca, Morocco)

Prof. Abdelkebir ELAMRI
(ESTC, UH2C, Casablanca, Morocco)

COMMITTEES

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Prof. Abdelmajid BADRI, Director of ESTC

Mr. Youssef MEJDOUB, Président of AMaCTIA Association

Mr. Driss ALAOUI, Président of GTS Association

AMaCTI   A: Moroccan Association of Researchers in Technology and Artificial Intelligence
GTS-IA: Association Technical group specialized in artificial intelligence

General Chairs

Prof. Youssef MEJDOUB	ESTC, UH2C, Casablanca, Morocco
Prof. Abdelkebir ELAMRI	ESTC, UH2C, Casablanca, Morocco

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COCIA'2023, MARCH 08 -09, 2023 – EST CASABLANCA – MOROCCO
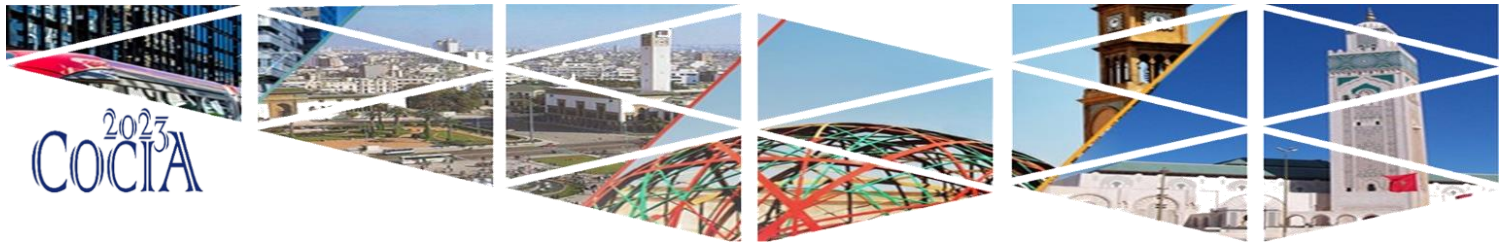
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COMMITTEES

Scientific Commitee

L. ABDELAOUI, ENS UMI, Morocco

A. ABOUDOU, ESTC UH2C, Morocco

O. ABDOUN, FS UAE, Morocco

M. ARIOUA, ENSA UAE, Morocco

M. AKHLOUFI, University of Moncton Canada

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A. BADRI, ESTC UH2C, Morocco

E. BAJIC, University of Lorraine, France

S. BOUCENNA, IUT University of Cergy-Pontoise, France

E. CAPLAIN, IUT University of Cergy-Pontoise, France

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S. IBNYAICH, FSSM UCA, Marrakech

L. ID-KHAJINE, IUT University of Cergy-Paris, France

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Y. MEJDOUB, ESTC UH2C, Morocco

K. NASSIRI, University of Moncton Canada

A. REHA, ISGA, Marrakech

M. RIDOUANI, ESTC UH2C, Morocco

M. RIFI, ESTC UH2C, Morocco
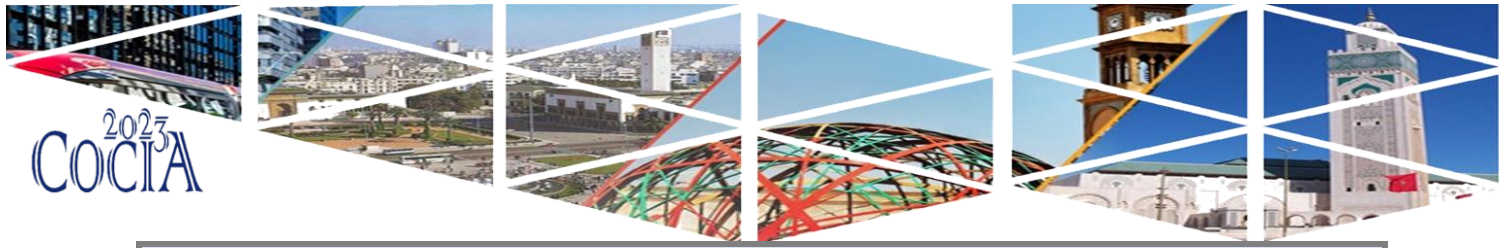
S. ZIANI, ESTC UH2C, Morocco

K. ZOUAQ, ESTC UH2C, Morocco

TOPICS & SESSIONS COCIA'2023

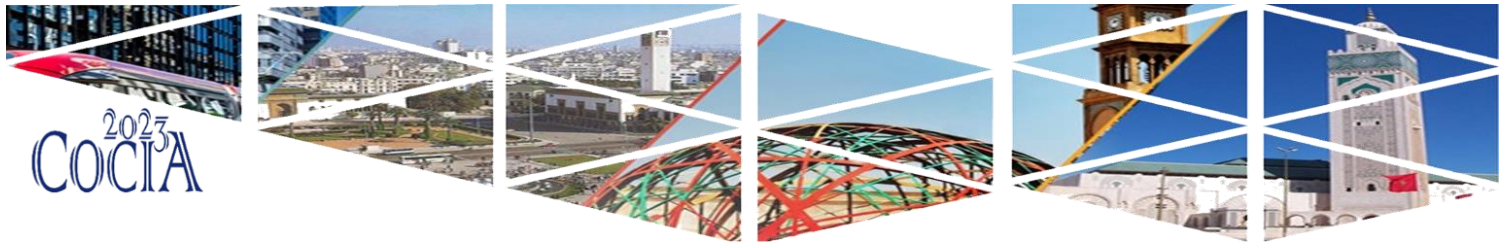| Session 1	Connected objects and Systems
Session 2	Artificial Intelligence and its Application
Session 3	Telecommunications
Session 4	Connected objects and Systems
Session 5	Artificial Intelligence and its Application
Session 6	Connected objects and Artificial Intelligence
Session 7	Telecommunications
Session 8	Electrical Engineering

PRESENTATION GUIDELINES

- All presentations are in English.

- Each presentation is eight **(8_10) minutes** long with five (5) minutes for Q/As.

- Arrive 10 minutes before the session start time to upload your power point presentation. Please, start and end your presentation on time and keep the time schedule.

- For poster presentations, the posters should be displayed one hour before the beginning of the poster session and any explanation required should be provided to session chairs and visitors.

Main Program of the COCIA'2023 Conference

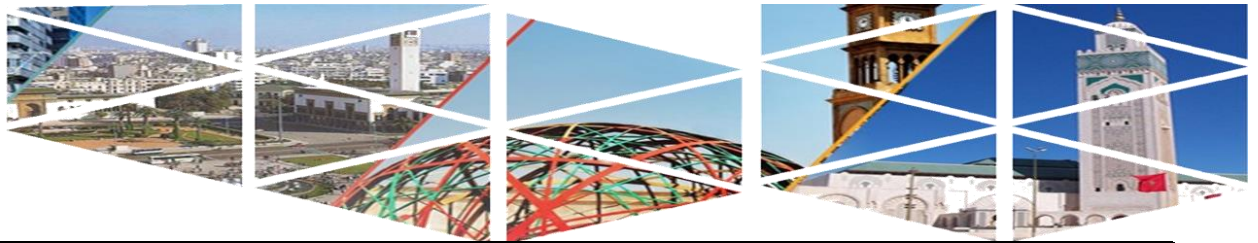| Wednesday, March 08, 2023			
8:00 – 9:15	**Welcome and Registration of participants**		
9:15 – 9:45	**Official Opening of the Conference** **Prof. Houssine AZEDDOUG** — President of UH2C University, Casablanca, Morocco **Prof. Abdelmajid BADRI** — Director of EST, UH2C University, Casablanca, Morocco **Prof. Abdelkebir ELAMRI** — COCIA'23 Chair, UH2C University, Casablanca, Morocco		
10:00 – 11:00	*Keynote speaker 1: Prof. Eddy BAJIC, University of Lorraine, France* *Title: Contributions of social relationship paradigm in industrial IoT: towards socialized industrial communicating objects*		
11:00 – 11:45	**Coffee break + Poster Session**		
11:45 – 12:45	*Keynote speaker 2: Prof. Otman ABDOUN, Abdelmalek Essaadi University, Morocco* *Title: Approches de l'intelligence artificielle pour résoudre les problèmes d'optimisation combinatoire*		
12:45 – 14:15	**break Lunch**		
14:30 – 16:00	**Session 1: Connected objects and Systems**	**Session 2: Artificial Intelligence and its Application**	**Session 3: Telecommunications**
16:00 – 16:45	**Coffee break + Poster Session**		
16:45 – 18:00	**Session 4: Connected objects and Systems**	**Session 5: Artificial Intelligence and its Application**	
Thursday, March 09, 2023			
8:30 – 9:00	**Welcome and Registration**		
09:15 – 10:15	*Keynote speaker 3: Prof. Soufiane BOUCENNA, Cergy-Pontoise University, France* *Title: Le robot comme outil de simulation pour mieux comprendre le cerveau*		
10:15 – 11:00	**Coffee break**		
11:00 – 12:00	*Keynote speaker 4: Prof. Abdelati REHA, ISGA Marrakech, Morocco* *Title: Fractal antennas and their applications in multiband and broadband telecommunications*		
12:00 – 13:30	**Session 6: Connected objects and Artificial Intelligence**	**Session 7: Telecommunications**	**Session 8: Electrical Engineering**
13:30 – 14:30	**break Lunch**		
15:00 – 15:30	**Closing Ceremony**		

Detailed Program of the COCIA'2023 Conference

Wednesday, March 08, 2023	
8:00 – 9:15	**Welcome and Registration of participants** **Installation of posters, demos and stands**
Official Opening of the Conference	
9:15 – 9:45	**Prof. Houssine AZEDDOUG** **President of UH2C University, Morocco** **Prof. Abdelmajid BADRI** **Director of EST, UH2C University, Morocco** **Prof. Abdelkebir ELAMRI** **COCIA'23 Chair**
10:00 – 11:00	**Keynote speaker 1:** **Prof. Eddy BAJIC, University of Lorraine, France** **Title: Contributions of social relationship paradigm in industrial IoT: towards socialized industrial communicating objects** **Moderator: Pof. Mohamed HAMRAOUI (UH2C University, Morocco)**
11:00 – 11:45	**Coffee break**
11:45 – 12:45	**Keynote speaker 2:** **Prof. Otman ABDOUN, UAE University, Morocco** **Title: Approches de l'intelligence artificielle pour résoudre les problèmes d'optimisation combinatoire** **Pof. Abderraouf ABOUDOU (UH2C University, Morocco)**
12:45 – 14:15	**break Lunch**

14:30 – 16:00	**Session 1 : Connected objects and Systems**
	Moderators:
	  Pof. Abderraouf ABOUDOU (EST Casablanca, UH2C University, Morocco)
	  Pof. Mounaim AQIL (EST Beni mellal, USMS University, Morocco)

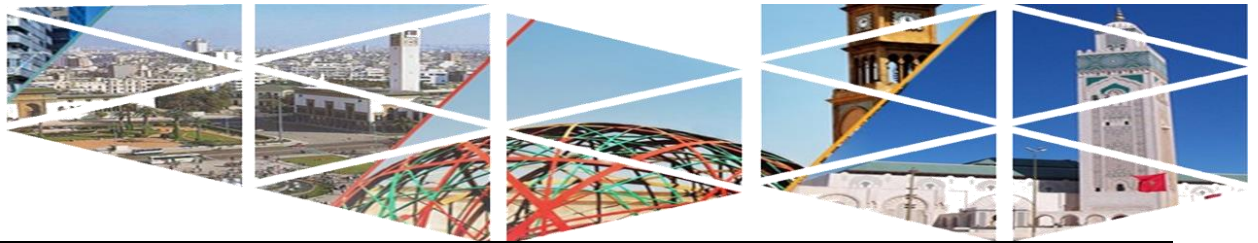|		
	ID_453036	*Salaheddine KABLY, Tajeddine Benbarrad, Nabih Alaoui, Guerrero-González Antonio, ARIOUA Mounir* "Distributed Authentication in a Multi-Zone Direct Acyclic Graph Blockchain for IoT Environment"
	ID_454648	Hanan AMTHIOU, Tajeddine Benbarrad, Mounir Arioua; "A Review of Digital Twins in industry 4.0"
	ID_441572	Fariss meriam, El Gafif hassan, Toumanari ahmed ; "Formal Security Analysis of an IoT Mutual Authentication Protocol"

	ID_447305	Mrabti abdelaziz, Nouri khaled ; "Smart manufacturing production line connectivity a case study in automotive sector"
	ID_456090	*Abdelaziz Mrabti, Sana Bouajaja, Hajer Khlif Hachicha, Khaled Nouri*; "Digital 5S: a case study of an Automotive wiring industry"

Session 2 : Artificial Intelligence and its Application
Moderators:

Pof. Ahmed LAGUIDI (FSJES Casablanca, UH2C University, Morocco)

Pof. Othman EL MESLOUHI (ENSA Safi, UCA University,Morocco)

14:30 – 16:00	ID_443063	Elkodssi iman, Sbai hanae ; "Toward a new semantic framework for internet of things-aware business process discovery"
	ID_447288	Aidi sanaa , Mazouzi mohamed ; "Optimization Approach for Yard Crane Scheduling Problem using genetic algorithm in Container Terminals"
	ID_446378	Boutahri youssef, Amine tilioua ; "An artificial neural network-based system to estimate the thermal comfort of buildings with energy efficiency"
	ID_451413	Haijoub abdelilah, Anas hatim, Mounir arioua, Slama hammia, Ahmed eloualkadi, Antonio guerrero-Gonzίlez; "Implementing Convolutional Neural Networks on FPGA : A Survey and Research"
	ID_447075	Isamyl labbihi, El Meslouhi othmane, Benaddy mohamed, Kardouchi mustapha, Akhloufi moulay ; " Using the Transformers and Frequency Filters for the segmentation of medical images "

Session 3 : Telecommunications
Moderators:

Pof. Mounir Arioua (ENSA Tetouan, UAE University, Morocco)

Pof. Abdelati Reha (ISGA Marrakech, Morocco)

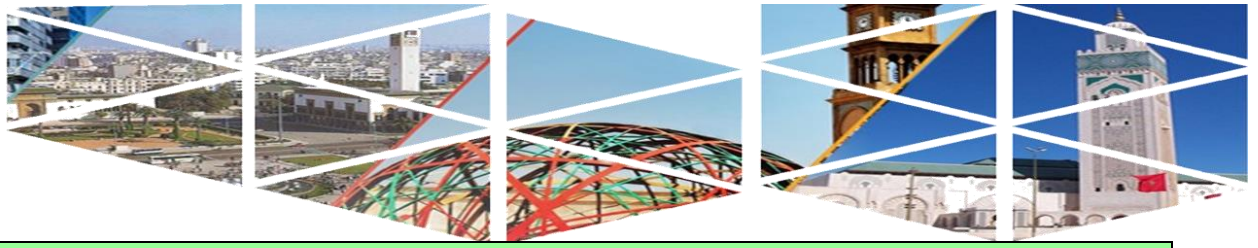|		
14:30 – 16:00	ID_447099	Smihily sara, Rifi mounir ; "Direction of Arrival Estimation in Smart Antenna for tracking system"
	ID_442470	Laabadli abdel-Ali, Mejdoub youssef, El Amri abdelkebir, Tarbouch mohamed ; "A miniaturized rectangular microstrip patch antenna with negative permeability unit cell metamaterial for the band 2.45 GHz"
	ID_443067	Siraj younes, Kaoutar saidi Alaoui, Foshi jaouad ; «Etude et conception d'une antenne Patch pour les applications biomédicales »
	ID_445616	Bellaj mohammed, Najib Naja, Abdellah Jamali ; "Distributed Rendezvous placement For producer mobility support in NDN-IoT"
	ID_447311	Salhane ilham, Mounir rifi, Hanae terchoune, Soumaya elmorabeti ; "5.8 GHz Rectenna for wereless powering battery-less sensors"

16:00 – 16:45	**Coffee break +** Session Poster

16:45 – 18:00	**Session 4 : Connected objects and Systems**
	Moderators:
	   Pof. Mohamed Hamraoui (EST Casablanca, UH2C University, Morocco)
	   Pof. Lahoucine IDKHAJINE (Cergy-Paris University, France)	

	ID_447730	Rafik hamza, Maizate abderrahim, Ettaoufik abdelaziz ; "Security aspects related Intelligent e-Health Systems"
	ID_447095	Hamidou Adamou ismael, Ahmed LAGUIDI, Youssef MEJDOUB ; "A comparative study on LPWAN standards: Nb-IoT and LTE-M"
	ID_448391	Tamtam samiya, Laguidi ahmed, Elkalay abderrafiaa ; "Data integration systems and bibliometrics"
	ID_441923	Mousli fatimazahra, Bouhachlaf loubna, El Hajjaji souad ; "Water Quality Monitoring System for a Smart Environment"
	ID_441923	Ali Choukri,"Integration system: Matching data detection"

16:45 – 18:00	**Session 5 : Artificial Intelligence and its Application**
	Moderators:
	   Pof. Abderrahim Maizate (EST Casablanca, UH2C University, Morocco)
	   Pof. Abderrafiaa EL KALAY (EST Casablanca, UH2C University, Morocco)	

	ID_452357	Elaissaoui khadija, Ridouani mohammed; "Deep Learning Application for Healthcare -"A Survey on Brain Tumor Detection"
	ID_446901	Elkoufi nouhaila , Belangour abdessamad, Sadiq mounir ; "Research Intelligent Precision Marketing of E-commerce Based on the Big Data mining"
	ID_442245	Bouacha manal, Sbai hanae; "Business IT Alignment in Cloud environment Proposed Framework"
	ID_443140	Karim zouaq, Youssef mejdoub ; "Electrical modelling and characterization of the faulty state of the artificial ventilators"
	ID_448365	Ettaoufik Abdelaziz; "Detection and monitoring of polluting vehicles in smart cities: A Survey"

	Thursday, March 09, 2023
8:30 – 9:00	**Accueil - Installation des posters, démos et stands**
09:15 –10:15	**Keynote speaker 3:** Prof. Soufiane BOUCENNA, Cergy-Pontoise University, France **Title: Le robot comme outil de simulation pour mieux comprendre le cerveau** **Moderator: Pof. Lahoucine IDKHAJINE (Cergy-Paris University, France)**
10:30 – 11:15	**Coffee break**

	Keynote speaker 4:
11:15 – 12:15	**Prof. Abdelati REHA, ISGA Marrakech, Morocco**
	Title: Les antennes fractales et leurs applications dans les télécommunications multi bandes et large bande
	Moderator: Pof. Abdelkebir ELAMRI (UH2C University, Morocco)

Session 7 : Connected objects and Artificial Intelligence

Moderators:

 Pof. Khalid Bouragba(EST Casablanca, UH2C University, Morocco)

 Pof. Mohamed EL KAMILI (EST Casablanca, UH2C University, Morocco)

12:15 –13:30	ID_447252	Habbat nassera, Nouri hicham, Anoun houda, Hassouni larbi ; "Using AraGPT and ensemble deep learning model for sentiment analysis on Arabic imbalanced dataset"
	ID_447708	Znaki rania, Maizate abderrahim, Ettaoufik abdelaziz ; "Confidentiality-preserving blockchain-based data sharing : A Survey"
	ID_447805	Baaba fatima Ezzahra, Ziyati el Houssine ; "Spark Query Optimization based on Data Locality"
	ID_447299	Ennabirha wafaa, Aboudou abderraoouf, Moutabir ahmed ; "the use of machine learning in the Internet of Things"
	ID_442058	Taki oumaima, Senhaji Rhazi kaoutar, Mejdoub youssef ; "Stirling engine optimization using artificial neural networks algorithm"

Session 7 : Telecommunications

Moderators:

 Pof. Youssef MEJDOUB (EST Casablanca, UH2C University, Morocco)

 Pof. Said ZIANI (EST Casablanca, UH2C University, Morocco)

12:15 –13:30	ID_441591	Attioui sanae, El Ouadi zakaria, El Aoud salah Eddine, Ibnyaich saida, Zeroual abdelouhab; "Design of Multiband Circular Fractal Antenna Array for Wireless Communication"
	ID_442887	Abbaoui hind , Ghammaz abdelilah, Belahrach hassan, El Bakouchi raefat-Jalila ; "Design and simulation of a low return loss UWB CPW-fed patch antenna for mobile wireless communications"
	ID_451940	Elghayyaty mohamed , Wahbi Azeddine, El Habti El Idrissi anas, Mouhib omar, Hadjoudja abdelkader ; "Development and Validation on FPGA Card of an optimized syndromes block for reed solomon decoder"
	ID_457300	Oumaima CHARIF, Noura AKNIN, "LoRa network performance analysis for IoT systems"
	ID_442047	Laguidi ahmed, Tamtam samiya, Mejdoub Youssef; "A technique to improve IoT connectivity based on NB-IoT and D2D communications"

PROGRAM – International Conference on Connected Objects and Artificial Intelligence
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12:15 –13:30	**Session 8 : Electrical Engineering** **Moderators:** **Pof. Abdelah ELJOUNAIDI (EST Casablanca, UH2C University, Morocco)** **Pof. Kaoutar SENHAJI RHAZII (EST Casablanca, UH2C University, Morocco)**	
	ID_446361	Nadir youssef, Belahrach hassan, Ghammaz abdelilah, Naamane Aze-Eddine aze-Eddine, Radouani mohammed ; "A comparative study of propagation delay applied on varieties carbon nanotubes Bundles interconnects using the FDTD and the ABCD matrix method"
	ID_445922	Lahfid el Houcine, Ouali abderrahim, El Baroudi yassine , El Jounaidi abdellah, Dkhichi fayrouz ; "Impact of the variation of capacitance, inductance, and resistive load on the behavior of buck converter"
	ID_452308	Ouali abderrahim, Lahfid el Houcine, El Baroudi yassine, El Jounaidi abdellah, Dkhichi fayrouz; "Comparative Study of the Three Equivalent Models response of Solar Cell"
	ID_441674	Baghli fatima Zahra, Lakhal yassine, Ait El Kadi youssef ; "Comparative Study of Advanced Controllers Techniques Applied to the Control of a Multi-articulated System"
	ID_447965	Ben Achour hafid, Ziani said, El Hassouani youssef ; "A non-lineair backstepping control of Permanent Magnet Synchronous Motor (PMSM)"
	ID_447965	Yassine Zahraoui, Mohamed Moutchou, Souad Tayane, Sara Elbadaoui, Chaymae Fahassa, "Robust Vector Control of Synchronous Reluctance Motor using a Three-Level NPC Inverter"
13:30 –14:30	**break Lunch**	
15:00 – 15:30	**Clôture Officielle**	

Session Poster

March 08, 2023

- Khadija EL moustaqim , Jamal Mabrouki, Driss Hmouni;" Monitoring of wastewater treatment systems based on the Artificial Neural Network System "
- Arif ahmed; " Modelling and designing a system based on supercapacitors for energy recovery in electric vehicles "
- Larhdid ilyas ; "Attendance Management System Using Face Recognition "
- Essafi Khadija; "Comparaison des approches de la reconnaissance d'activité humaine basée sur les objets connectés"
- Khalil SAADAOUI, Youssef MEJDOUB, Kaoutar SENhaji rhazi, Abderaaouf ABOUDOU ; " modelling and optimisation of multi-source energy systems with batteries "
- Moulay Abdellah KASSIMI, Abdessalam ESSAYAD; "Detecting Hadith Authenticity Using a Artificial Intelligence Techniques"
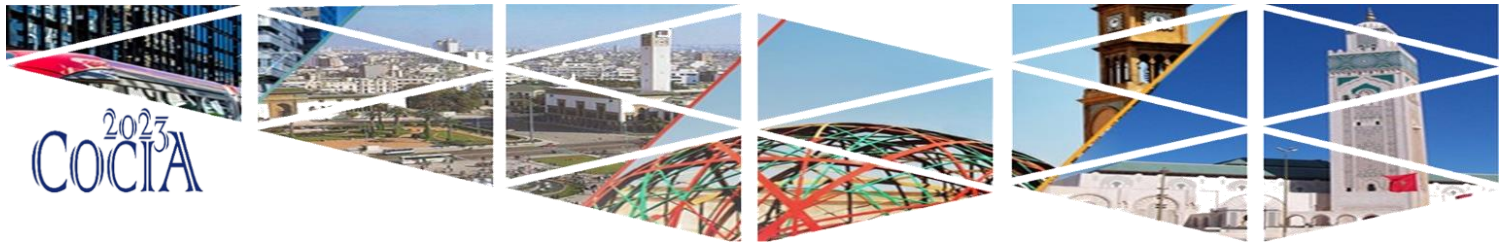
Speakers

Pr. Eddy BAJIC : professeur des universités en Génie Informatique et Automatisme Industriel à l'Université de Lorraine. Directeur de recherche au Laboratoire CRAN-CNRS UMR 7039, ses activités de recherche sont centrées sur la modélisation et la conception des systèmes connectés Intelligents, les interactions intelligentes et socio-mimétiques entres objets communicants pour l'Internet des Objets industriels (IIoT) et l'Industrie 4.0. Expert scientifique depuis 2006 à la Commission européenne pour l'évaluation des projets de recherche H2020-Horizon, Internet of Things, smart city et smart factory. Il a mené de nombreux projets de R&D avec des industriels et universités, projets ANR et projets internationaux. Il est membre de la commission nationale de normalisation française (AFNOR CN IOT) sur l'Internet des objets, et a publié plus d'une centaine de publications scientifiques dans des revues et conférences internationales, et des livres.

Titre de la Conférence N°1 : APPORTS DES PARADIGMES SOCIAUX DANS L'INTERNET DES OBJETS INDUSTRIELS : VERS DES OBJETS COMMUNICANTS INDUSTRIELS SOCIAUX.

Title: CONTRIBUTIONS OF SOCIAL RELATIONSHIP PARADIGM IN INDUSTRIAL IOT: TOWARDS SOCIALIZED INDUSTRIAL COMMUNICATING OBJECTS

Résumé :

The interaction between heterogeneous communicating objects in an IoT context is constrained by issues of interoperability, security and confidentiality. These aspects are preponderant in the classes of open applications, and can limit their evolution in the face of the remarkable increase in the number of communicating objects, and their increasingly nomadic character in an Industry 4.0 context. A new approach is emerging through the Social Internet of Things (SIoT) paradigm, which consists in providing autonomous communicating objects with interaction capacities inspired by human social relations. We present the evolution of the IoT concept towards SIoT, as well as the results of the major research work carried out in this movement. We analyze the contributions of social paradigms in the interactions between industrial communicating objects. We extend this work by analyzing a structuring of a Socialized Industrial Communicating Object, by specifying new notions in an industrial context of balance and monetization of services.

Pr. Otman ABDOUN : Associate Professor at Faculty of Science Abdelmalek Essaadi University, Tetouan, Morocco. He received his PhD in Computer Science from the University of Ibn Tofail Kenitra in February 2012 and a Habilitation from ENSA-Tetouan, Abdelmalek Essaadi University, Morocco in December 2017. Research interests: Artificial intelligence, Machine Learning, Competitive Learning, Data Analytics, Big Data, Intelligent Tutoring Systems, Multi-Agents System, Evolutionary Computation, Computational intelligence, Genetic Algorithm, and Image processing, etc.

Titre de la Conférence N°2 : Approches de l'intelligence artificielle pour résoudre les problèmes d'optimisation combinatoire

Résumé : La technologie de l'intelligence artificielle (IA) tente de simuler le comportement humain. Ces techniques tendent à résoudre les problèmes d'optimisation mieux, plus rapidement et avec plus de précision que les techniques traditionnelles existantes. Les techniques d'IA utilisent souvent plusieurs solutions pour arriver à la meilleure solution. Certaines propriétés particulières de ces technologies sont les suivantes : les méthodes préservent les résultats obtenus, elles apprennent et ajustent leurs performances, les méthodes peuvent planifier leur progression et elles agissent intelligemment selon l'intelligence humaine ou sociale. Des études menées par différents chercheurs dans différents contextes ont montré que la résolution combinatoire intelligente de problèmes d'optimisation est apparue comme une option prometteuse. Cette présentation donne un aperçu des différents problèmes d'optimisation que nous avons étudiés. Nous publions les résultats de certaines méthodes d'optimisation et montrons qu'elles sont des approches prometteuses en termes de qualité de solution.
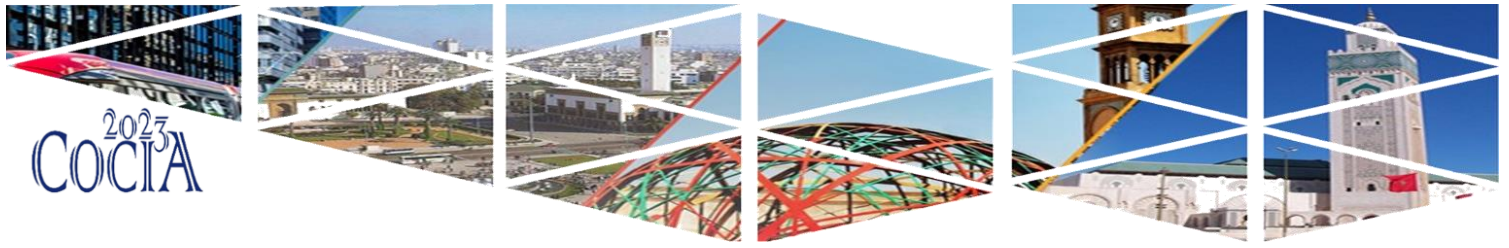
Pr. Abdelati REHA: Professor, Head of Department at ISGA Marrakech Morocco (INSTITUT SUPERIEUR D'INGENIERIE ET DES AFFAIRES). He was born in Casablanca-Morocco in 1975, he received the degree of engineer in aeronautic from the Royal Air Academy of Marrakech-Morocco in 1999, the degree of engineer in telecommunication from the INPTRabat-Morocco in 2002, the PHD degree in telecommunication from Hassan II University-Casablanca-Morocco in 2016. He is an Ex-Major in Moroccan Royal Air Forces. He is the head of Electronic department in ISGA-Marrakech. His main research interests are in fractal antennas, UWB applications, array antennas.

Titre de la Conférence N°4 :

Les antennes fractales et leurs applications dans les télécommunications multi bandes et large bande

Fractal antennas and their applications in multiband and broadband telecommunications

Résumé : Dans des applications telles qu'en aéronautique, satellites, missiles, automobile, tablettes et Smartphones où le poids, le prix, les performances, la forme aérodynamique et la facilité d'installation et de maintenance sont des facteurs très importants.
Aussi, avec la multiplication des applications commerciales et gouvernementales telles que: la téléphonie mobile (2G/3G/4G), les réseaux sans fils (WIMAX/WLAN) et les réseaux personnelles (RFID, ZigBee, BLUETOOTH…), la conception des antennes simples, miniaturisées, multi-bandes et /ou large-bandes devient une nécessité.
Pour la conception de ce genre d'antennes, plusieurs techniques sont utilisées : (La modification des formes , L'ajout des courts circuits, L'insertion des fentes, L'utilisation des méta-matériaux, L'utilisation des structures fractales).
L'objectif de notre domaine de recherche est la conception des antennes fractales pour les télécommunications multi-banses et large bande
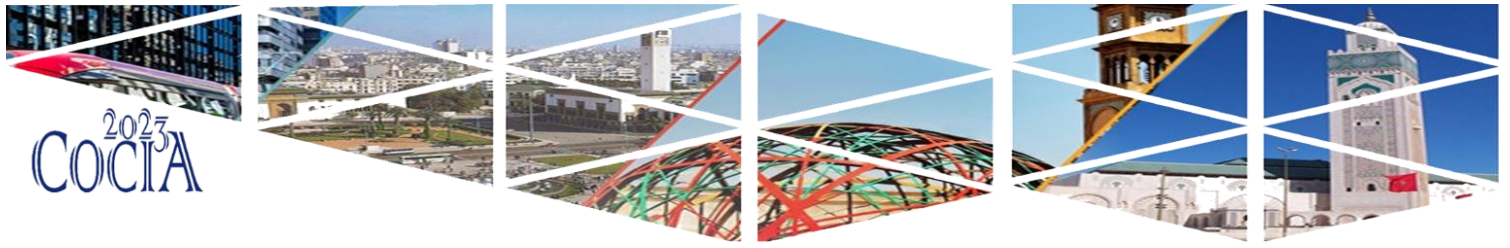
Pr. Sofiane BOUCENNA: *is Associate professor at CY Cergy Paris University in France. He was postdoctorate at Pierre et Marie Curie University in the Institut des Systèmes Intelligents et de Robotique lab (ISIR)in France in 2012-2014. He obtained its PhD at the Cergy Pontoise University in 2011, where he worked with the Neurocybernetic team of the Image and Signal processing Lab (ETIS). His research interests are focused on the modeling of cognitive mechanisms and the development of interaction capabilities such as imitation, emotion and social referencing. Currently, he attempts to assess the effect of the type of partners (adults, typically developing children and children with autism spectrum disorder) on robot learning.*

titre: Le robot comme outil de simulation pour mieux comprendre le cerveau

Résumé: Dans cette présentation, nous discuterons des apports de la robotique développementale pour les sciences cognitives. Dans nos travaux, le robot est un outil de simulation qui peut aider à mieux comprendre le fonctionnement du cerveau. Les expériences robotiques permettent ainsi de montrer la cohérence des modèles développés mais surtout leurs limitations. Ici, notre objectif sera de présenter des modèles de réseaux de neurones artificiels implémentés sur des robots pour mieux comprendre les mécanismes sous-jacents à la communication. Nous nous concentrerons sur le développement de compétences sociales comme l'imitation, l'émotion et l'attention conjointe.

THE INTERNATIONAL CONFERENCE ON CONNECTED OBJECTS AND ARTIFICIAL INTELLIGENCE

March 8-9 2023, Casablanca, Morocco

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