

Program of International Conference on Advances in Communication Technology, Computing and Engineering ICACTCE 2021 (Virtual Conference from Morocco)

(*) Note: All times are Morocco local time (GMT+01)

Wednesday March 24th, 2021	
09:00-09:30	Opening Speech • Prof. Dr. Mohammed Bennasser, Director of High School of Technology Meknes, Moulay Ismail University, Morocco (Honorary Committee) • Prof. Dr. Abdallah Rhattoy, High School of Technology Meknes, Moulay Ismail University, Morocco (Honorary Committee) • Prof. Dr. Mohamed Kissi, Faculty of Sciences and Techniques Mohammedia, Hassan II University, Morocco (Honorary Committee) • Dr. Mariya Ouaisa, Moulay Ismail University Meknes, Morocco (General Chair) • Dr. Zakaria Boulouard, FST Mohammedia, Hassan II University, Morocco (General Co-Chair) • Dr. Sarah El Himer, FST, SMBA University Fez, Morocco (TPC Chair)
09:30-10:10	Plenary Speaker 1: Prof. Dr. Nabil Benamar, High School of Technology, Moulay Ismail University, Meknes, Morocco Title: <i>"The Role of Standardization Bodies in Research: the IETF as an Example"</i> Session Chair: Dr. Meriem Houmer, Moulay Ismail University, Meknes, Morocco
10:10-10:30	Break
Technical Sessions	
10:30-12:30	Session 1: Networking and Security Session Chair: Dr. Safae Laqtib, Moulay Ismail University, Meknes, Morocco
10:30-12:30	Session 2: PHY and Access Network Techniques Session Chair: Dr. Sara El Hamdani, Moulay Ismail University, Meknes, Morocco
10:30-12:30	Session 3: Electrical Engineering Session Chairs: Dr. Sara Mensou, ENSET, Mohammed V University Rabat, Morocco
12:30-14:00	Break
14:00-14:40	Plenary Speaker 2: Dr. Nezha Mejjad, Department of Geology, Faculty of Sciences Ben M'sik – Hasan II University of Casablanca, Morocco Title: <i>"Does Open Innovation Increase Environmental Innovation Performances?"</i> Session Chair: Dr. Hanane Yaagoubi, ENSET Rabat, Mohamed V University, Morocco
14:40-15:20	Plenary Speaker 3: Dr. Hajar Moudoud, University of Sherbrooke, Sherbrooke, Canada Title: <i>"Blockchain Integration with the Internet of Things: Integration Issues, Challenges, and Future Research Directions"</i> Session Chair: Dr. Meriem Houmer, Moulay Ismail University, Meknes, Morocco
15:20-15:30	Break
Technical Sessions	

15:30-18:15	<i>Session 4 : Computational Intelligence</i> <u>Session Chair:</u> Dr. Siham Eddamiri, ENSAM, Moulay Ismail University Meknes, Morocco
15:30-18:15	<i>Session 5 : Antenna in Communication System</i> <u>Session Chair:</u> Dr. Maryam Abata, Sidi Mohamed Ben Abdellah University Fez, Morocco
15:30-18:15	<i>Session 6 : Renewable Energy</i> <u>Session Chair:</u> Dr. Sarah El Himer, FST, SMBA University Fez, Morocco Dr. Choroq Zadelkhair El Archi, ENSET, Mohammed V University Rabat, Morocco

Thursday March 25th, 2021	
09:15-10:00	Plenary Speaker 4: Dr. Sarah El Himer , FST, SMBA University Fez, Morocco Title: <i>“Concentrated Photovoltaic Technology (CPV) in Morocco”</i> Session Chair: Dr. Mariyam Ouassa, Moulay Ismail University Meknes, Morocco
10:00-10:40	Plenary Speaker 5: Dr. Gürkan Solmaz , NEC Laboratories Europe, Germany Title: <i>“Combining IoT and ML for Situation Awareness”</i> Session Chair: Dr. Zakaria Boulouard, FST Mohammedia, Hassan II University, Morocco
10:40-10:45	Break
10:45-13:15	Technical Sessions
	Session 7 : Computing Software Session Chairs: Dr. Khadija Letrache, FST Mohammedia, Hassan II University, Morocco Dr. Ahmed Oussous, FST Mohammedia, Hassan II University, Morocco
10:45-13:15	Session 8 : Electronic Engineering Session Chair: Dr. Asmae Babaya, ENSAM, Moulay Ismail University Meknes, Morocco
10:45-13:15	Session 9 : Chemical, Environmental and Industrial Engineering Session Chair: Dr. Mouna Berquedich, Mohammed VI Polytechnic University, Morocco
13:15-14:00	Break
14:00-14:40	Plenary Speaker 6: Dr. Addi Ait-Mlouk , Uppsala University, Uppsala, Sweden Title: <i>“Federated Learning: Privacy preserving with FEDn”</i> Session Chair: Dr. Zakaria Boulouard, FST Mohammedia, Hassan II University, Morocco
14:40-14:45	Break
14:45-17:15	Technical Sessions
	Session 10 : Mechanical Engineering Session Chais: Dr. Khadija Hmina, ENSAM Meknes, Moulay Ismail University, Morocco
14:45-17:15	Session 11 : Materials Engineering Session Chair: Dr. Ilyas Bouziani, FS Meknes, Moulay Ismail University, Morocco

<i>Friday March 26th, 2021</i>	
09:00-12:00	<i>“Special Session in 3D Printing”</i> <u>Panel Moderator:</u> Dr. Hanane Yaagoubi, Mohamed V University, Morocco <u>Keynote Speakers:</u> • Eng. Mouna Taroua, Lazarus 3D, USA • Prof. Dr. Mouhsine Lakhdissi, FST Settat, Hassan 1er University, Morocco • Prof. Dr. Belhouideg Soufiane, Sultan Moulay Slimane University, Beni Mellal Morocco • Eng. Paula Nashat Rady, Trim Academy, Egypt
12:00-14:00	Break
14:00-14:40	Plenary Speaker 7: Prof. Dr. Oulaid Kamach, National School of Applied Sciences , University of Abdelmalek ESSAADI Tangier, Morocco <u>Title:</u> <i>“Industry 4.0”</i> <u>Session Chair:</u> Dr. Mouna Berquedich, Mohammed VI Polytechnic University, Morocco
14:40-15:20	Plenary Speaker 8: Prof. Dr. Yassine Rhazali, High School of Technology, Moulay Ismail University Meknes, Morocco <u>Title:</u> <i>“Create Software from Specifications Automatically through MDA Approach”</i> <u>Session Chair:</u> Dr. Mariya Ouaisa, Moulay Ismail University Meknes, Morocco
15:20-16:00	Closing Speech

Detailed program

Wednesday March 24th, 2021

Opening Speech - (09:00-09:30)

- **Prof. Dr. Mohammed Bennasser**, Director of High School of Technology Meknes, Moulay Ismail University, Morocco (**Honorary Committee**)
- **Prof. Dr. Abdallah Rhattoy**, High School of Technology Meknes, Morocco (**Honorary Committee**)
- **Prof. Dr. Mohamed Kissi**, Faculty of Sciences and Techniques Mohammeda, Hassan II University, Morocco (**Honorary Committee**)
- **Dr. Mariya Ouaisa**, Moulay Ismail University, Meknes, Morocco (**General Chair**)
- **Dr. Zakaria Boulouard**, FST Mohammeda, Hassan II University, Morocco (**General Co-Chair**)
- **Dr. Sarah El Himer**, FST, SMBA University Fez, Morocco (**TPC Chair**)

Plenary Speaker 1- (09:30-10:10)

- **Speaker:** Prof. Nabil Benamar, High School of Technology, Moulay Ismail University, Meknes, Morocco
- **Title:** *"The Role of Standardization Bodies in Research: the IETF as an Example"*
- **Session Chair:** Dr. Meriem Houmer, Moulay Ismail University, Meknes, Morocco

Break- (10:10-10:30)

Session 1 - (10:30-12:30): Networking and Security

- **Session Chair:** Dr. Safae Laqtib, Moulay Ismail University, Meknes, Morocco
- **Paper ID 28:** "Hybrid Localization Approach Based on DV-Distance and Fruit Fly Optimization Algorithm for WSNs"
Seddik Rabhi (University of Adrar, Algeria), Fouzi Semchedine (University of Ferhat Abbas Setif, Setif, Algeria), Nader Mbarek (University of Bourgogne Franche-Comté, Dijon, France)
- **Paper ID 42:** "SAMP-RPL: Safe Multipath RPL for Heterogeneous Internet of Things"
Somia Sahraoui (University Mohamed Khider of Biskra, Biskra, Algeria), Nabil Henni (University Mohamed Khider of Biskra, Biskra, Algeria)
- **Paper ID 48:** "SDN-based Handover Management Approach for Next Generation Vehicular Networks"
Amina Gharsallah (University of Sfax, Tunisia), Faouzi Zarai (University of Sfax, Tunisia), Mahmoud Neji (University of Sfax, Tunisia)
- **Paper ID 85:** "A New Generalised Stochastic Petri Nets Modelling for Solar Energy Harvesting Sensors in Long Lasting WSNs, Considering Seasonal Sunshine Levels"
Nourredine Oukas (University of Bouira, Bouira, Algeria), Menouar Boulif (M'Hamed Bougara University of Bumerdes, Algeria)
- **Paper ID 89:** "Machine Learning for Routing in IoT: a review"
Nour El Houda Larouci (Mohamed Khider University, Biskra, Algeria), Somia Sahraoui (Mohamed Khider University, Biskra, Algeria), Abdelhamid Djeflal (Mohamed Khider University, Biskra, Algeria)
- **Paper ID 150:** "Hybrid Approach for Intrusion Prevention System on Software-Defined Networking"
Nang May Phu Lwin (Faculty of Computer Systems and Technologies, University of Computer Studies, Mandalay, Myanmar), Su Thawda Win (Faculty of Computer Systems and Technologies, University of Computer Studies, Mandalay, Myanmar)
- **Paper ID 176:** "A Comparative Study between Handover LTE and 5G(NR)"
Samia Hakkou (National School of Applied Sciences, Kenitra, Morocco), Tomader Mazri (National School of Applied Sciences, Kenitra), Nabil Hmina (University Sultan Moulay Slimane, Beni Mellal, Morocco)
- **Paper ID 190:** "Vehicle-to-Grid Security in Smart Grid: An Overview"
Meriem Houmer (Moulay Ismail University, Meknes, Morocco), Mariya Ouaisa (Moulay Ismail University, Meknes, Morocco), Mariyam Ouaisa (Moulay Ismail University, Meknes, Morocco)

Session 2 - (10:30-12:30): PHY and Access Network Techniques

- **Session Chair:** Dr. Sara El Hamdani, Moulay Ismail University, Meknes, Morocco

- **Paper ID 23:** "Performance Analysis of Proposed Hybrid PTMC/MD Codes in Two Dimensional Spectral/Spatial OCDMA Scheme"
Naoum Abderrahmane (University of Science and Technology of Oran - Mohamed BOUDIAF, Oran, Algeria), Reguieg Sara (University Djillali Liabes, Sidi Bel Abbes, Algeria), Kandouci Chahinaz (University Djillali Liabes, Sidi Bel Abbes, Algeria)
- **Paper ID 55:** "Capacity Performance Comparison of Cooperative NOMA and OMA Systems in DF and AF"
Faical Khennoufa (Hamma Lakhdar El-Oued University, El-Oued, Algeria), Abdellatif Khelil (Hamma Lakhdar El-Oued University, El-Oued, Algeria)
- **Paper ID 64:** "Performance Analysis of Underwater Wireless Optical Communications (UWOC) channel using All-Optical Differential Shift Keying modulation"
Chahinaz Kandouci (Djillali Liabes University of Sidi Bel Abbes 2000, Algeria)
- **Paper ID 69:** "Outage probability performance of NOMA in the presence of I/Q imbalance"
Beddiaf Safia (Hamma Lakhdar El-Oued University, C El-Oued, Algeria), Khelil abdellatif (Hamma Lakhdar El-Oued University, C El-Oued, Algeria)
- **Paper ID 79:** "TeraChip: Performance and Evaluation of Different Configurations Possible for Achieving Terabit Networking Chip"
Samir Ghouali (Faculty of Sciences and Technology, Mustapha Stambouli University, Mascara, Algeria), Bentahar Attaouia (Faculty of Sciences and Technology, Mustapha Stambouli University, Mascara, Algeria), Haroun Errachid Adardour (Faculty of Technology in Hassiba Benbouali, University of Chlef, Algeria), Mohammed Seghir Guellil (Faculty of Economics, Business and Management Sciences, University of Mascara, Algeria), Amina Elbatoul Dinar (Faculty of Sciences and Technology, University of Mascara, Algeria), Emad Kamil Hussein (Al Mussaib Technical College, Al Furat AlAwsat Technical, Al Mussaib University, Babil, Iraq), Mohammed Anis Oukebdane (Faculty of Sciences and Technology, Mustapha Stambouli University, Mascara, Algeria)
- **Paper ID 110:** "Improvement of SAC-OCDMA System Performance based on a Novel Zero Cross Correlation Code Design"
Mohanad Alayeddi (Ferhat Abbas University of Setif 1, Setif, Algeria), Abdelhamid Cherifi (Dr. Tahar Moulay University of Saida, Setif, Algeria), Abdelhak Ferhat Hamida (Ferhat Abbas University of Setif 1, Setif, Algeria), Rima Matem (Advanced Communication Engineering Center of Excellence School of Computer and Communication Engineering (ACE CoE-SCCE), University Malaysia Perlis (UniMAP), Perlis, Malaysia), Somia A. Abd El-Mottaleb (Higher Institute of Engineering and Technology, Alexandria, Egypt)
- **Paper ID 185:** "Performances Analysis Frequency Encoding OCDMA Using Enhanced Diagonal Eigenvalue Unit code"
Bouarfa Abdelkader (University of Saida-Dr. Moulay Tahar, Saida, Algeria), **Hachemaoui Yacine** (University of Saida-Dr. Moulay Tahar, Saida, Algeria), Zouani Brahim Khalil (University of Saida-Dr. Moulay Tahar, Saida, Algeria), Fliti Badra (University of Saida-Dr. Moulay Tahar, Saida, Algeria), Addadi Rofeida (University of Saida-Dr. Moulay Tahar, Saida, Algeria)

Session 3 - (10:30-12:30): Electrical Engineering

- **Session Chair:** Dr. Sara Mensou, ENSET, Mohammed V University Rabat, Morocco

- **Paper ID 87:** “Sensorless Model Predictive Direct Power Control for PWM Rectifier Using Finite Control Set and Continuous Control Set”
Sarah Djabali (University of Boumerdes, Boumerdes, Algeria), Melissa Ait Hamou Ali (University of Boumerdes, Boumerdes, Algeria), Abdelkarim Ammar (University of Boumerdes, Boumerdes, Algeria)
- **Paper ID 92:** “A Day-Ahead Optimal Energy Scheduling in a Deregulated Power System for Cost and Profit Optimization Using an Efficient Algorithm”
Riyadh Bouddou (University of Djillali Liabes, Sidi Bel-Abbes, Algeria), Farid Benhamida (University of Djillali Liabes, Sidi Bel-Abbes, Algeria), Ismail Ziane (University of Djillali Liabes, Sidi Bel-Abbes, Algeria), Sami Mohammed Bennihi (University of Djillali Liabes, Sidi Bel-Abbes, Algeria), Abdelkarim Ammar (University of M'hamed Bougara, Boumerdes, Algeria), Habchi Yassine (University Center Salhi Ahmed, Naama, Algeria)
- **Paper ID 120:** “Application of Diffusive Representation in the Analysis of Dielectric Relaxation Spectra in the Case of Organic Dielectrics (Cole-Cole Relaxation Model)”
Saadaoui Yahia (Amar Telidji University of Laghouat, Algeria), Zegnini Boubakeur (Amar Telidji University of Laghouat, Algeria), Seghier Tahar (Amar Telidji University of Laghouat, Algeria), Bouderbala Abdelkader (Amar Telidji University of Laghouat, Algeria)
- **Paper ID 135:** “Comparative Study of Synchronous Reluctance Motor (SynRM) Control Strategies”
M. E. Boussouar (University of Biskra, Biskra, Algeria), K. Yahia (University of Biskra, Biskra, Algeria), A. J. M. Cardoso (University of Beira Interior, Covilhã, Portugal), M. Sahraoui (University of Biskra, Biskra, Algeria)
- **Paper ID 172:** “Modeling and Building Three Tank System”
Djalloul Achour (Faculty of Technology, University of Hassiba Benbouali, Chlef, Algeria)
- **Paper ID 189:** “Comparative Analysis and Trends in Electric Motors for Electric Vehicles”
El Hadraoui Hicham (Mohammed VI Polytechnic University, Benguerir, Morocco), Zegrari Mourad (Mohammed VI Polytechnic University, Benguerir, Morocco), Chebak Ahmed (Mohammed VI Polytechnic University, Benguerir, Morocco)

Break- (12:30-14:00)

Plenary Speaker 2 – (14:00-14:40)

- **Speaker:** Dr. Nezha Mejjad, Department of Geology, Faculty of Sciences Ben M'sik – Hasan II University of Casablanca, Morocco
- **Title:** “Does Open Innovation Increase Environmental Innovation Performances?”
- **Session Chair:** Dr. Hanane Yaagoubi, ENSET Rabat, Mohamed V University, Morocco

Plenary Speaker 3 - (14:40-15:20)

- **Speaker:** Dr. Hajar Moudoud, University of Sherbrooke, Sherbrooke, Canada
- **Title:** “Blockchain Integration with the Internet of Things: Integration Issues, Challenges, and Future Research Directions”
- **Session Chair:** Dr. Meriem Houmer, Moulay Ismail University, Meknes, Morocco

Break- (15:20-15:30)

Session 4 - (15:30-18:15): Computational Intelligence

- **Session Chair:** Dr. Siham Eddamiri, ENSAM, Moulay Ismail University Meknes, Morocco
- **Pape ID 5:** “Gender Prediction and Age Estimation using CNN from Face Images”
Mohammed Kamel Benkaddour (University Kasdi Merbah, Ouargla, Algeria)
- **Pape ID 34:** “A Deep Learning Solution for Learning Style Detection using Cognitive - Affective Features”
Farouk Lawan Gambo (Federal University Dutse, Jigawa, Nigeria), Gregory Maksha Wajiga (Moddibo Adama University of Technology, Yola, Adamawa, Nigeria), Etemi Joshua Garba (Moddibo Adama University of Technology, Yola, Adamawa, Nigeria), Aminu Aliyu Abdullahi (Moddibo Adama University of Technology, Yola, Adamawa, Nigeria), Desmond Bala Bisandu (University of Jos, Jos, Nigeria)
- **Paper 51:** “Automatic Detection of Moroccan Coastal Upwelling using Feedforward Neural Networks and Fuzzy Clustering”
Mohamed Snoussi (Faculty of Science, Ibn Zohr University, Agadir, Morocco), Ayoub Tamim (Faculty of Sciences, Mohammed V University, Rabat, Morocco), Salma El Fellah (Faculty of Science, Ibn Zohr University, Agadir, Morocco), Mohamed El Ansari (Faculty of Science, Moulay Ismail University, Meknes, Morocco)
- **Paper 72:** “A Comparative Study of State-of-the-Art Methods for Vision-based Obstacle Detection”
Menacer Abderaouf (University of Batna 2, Batna, Algeria), Guezouli Larbi (University of Batna 2, Batna, Algeria), Guezouli Lyamine (University of Batna 2, Batna, Algeria)
- **Paper 83:** “COVID-19 Tweets Sentiment Analysis using Machine Learning Approaches and Divers Document Representations”
Fatiha Youbi (University of Tlemcen, Algeria), Nesma Settouti (University of Tlemcen, Algeria)
- **Paper 94:** “White Blood Cells Recognition using CNN”
Mohammed Ammar (University M'Hamed Bougara, Boumerdes, Algeria), Naima Kebabi (University M'Hamed Bougara, Boumerdes, Algeria), Mostafa El Habib Daho (Abou Bekr Belkaid University Tlemcen, Algeria), Amel Laidi (M'Hamed Bougara University Boumerdes, Algeria)
- **Paper 164:** “A Comparison of Deep Network with SVM Classifier for Static Hand Gesture Recognition”
Debajit Sarma (, IIT Guwahati, India), M.K. Bhuyan (IIT Guwahati, India)
- **Paper 169:** “Anti Spam Filter based on Machine Learning”
Saadi Djohra (Faculty of Exact Sciences, University of Abderrahmane Mira, Bejaia, Algeria), Hamza Lamia (Faculty of Exact Sciences, University of Abderrahmane Mira, Bejaia, Algeria), Nassou Meriem (Faculty of Exact Sciences, University of Abderrahmane Mira, Bejaia, Algeria)
- **Paper 180:** “An Approach for Embedding Constraint Handling in the Genetic Algorithm Fitness to Solve Heavily Constrained Problems”
Alouane Basma (M'Hamed Bougara University, Boumerdes, Algeria), Boulif Menouar (M'Hamed Bougara University, Boumerdes, Algeria)
- **Paper 186:** “Detection of Knee Osteoarthritis based on Wavelet and Random Forest Model”
Khadidja Messaoudene (University M'Hamed Bougara of Boumerdes, Algeria), Khaled Harrar (University M'Hamed Bougara of Boumerdes, Algeria)
- **Paper 192:** “Machine Learning Methods in the Estimation of Beef Cattle's Final Yields (A Literature Review)”
Moad Hakam (Faculty of Sciences and Techniques, Hassan II University, Mohammedia, Morocco), Zakaria Boulouard (Faculty of Sciences and Techniques, Hassan II University, Mohammedia, Morocco), and Mohamed Kissi (Faculty of Sciences and Techniques, Hassan II University, Mohammedia, Morocco)

Session 5 - (15:30-18:15): Antenna in Communication System

- **Session Chair:** Dr. **Maryam Abata**, Sidi Mohamed Ben Abdellah University Fez, Morocco

- **Paper ID 24:** "Design Of Metamaterial based Planar Antennas and their Applications for 5G"
Fayza Bousalah (University Abou Bekr Belkaid, Tlemcen, Algeria), Hayat Benosman (University Abou Bekr Belkaid, Tlemcen, Algeria)
- **Paper ID 33:** "Design of Miniature Microstrip Antennas Inspired Metamaterials for WLAN Applications"
Hayat Benosman (Abou-Bekr Belkaïd University, Tlemcen, Algeria), N.Boukli Hacem (Abou-Bekr Belkaïd University, Tlemcen, Algeria)
- **Paper ID 39:** "Design and Miniaturization of a Printed Pentagon Antenna for ISM Applications"
Souheyla Ferouani (University of belhadj Bouchaib Ain Temouchent, Ain Temouchent, Algeria), Wassila Moulessehoul (University of belhadj Bouchaib Ain Temouchent, Ain Temouchent, Algeria)
- **Paper ID 47:** "Flexible ISM Band Compact Size Antenna for Wearable Off-Body Wireless Communication"
Sarosh Ahmad (Electrical Engineering, Government College University, Faisalabad, Pakistan), Jamsher Ali (College of Electrical & Control Engineering Shanxi University of Science and Technology, China), Asma Khabba (Cadi Ayyad University, Marrakech, Morocco), Nabil Cherif (Mustapha Stambouli University, Mascara Algeria), and Piyal Saha (University of Bremen, Bremen, Germany)
- **Paper ID 50:** "Novel Form for High Gain Millimeter Wave Antennas Array Based on Substrate Integrated Waveguide Technology"
Nabil Cherif (Mustapha Stambouli University, Mascara, Algeria), Mehadji Abri (Abou Bekr Belkaid University, Tlemcen, Algeria), Benzerga Fellah (Mustapha Stambouli University, Mascara, Algeria), Hadjira Badaoui (Abri (Abou Bekr Belkaid University, Tlemcen, Algeria)), Sarosh Ahmad (Electrical Engineering Department, Government College University, Faisalabad, Pakistan)
- **Paper ID 66:** "Multi-Slots Microstrip Patch Antenna for 5G Wireless Communications"
Salima Azzaz-Rahmani (, Faculty of Electrical Engineering, University of Sidi Bel Abbes, Algeria), Hadj Zerrouki (Faculty of Technology, University of Tlemcen, Algeria)
- **Paper ID 82:** "Miniaturized Patch Antenna with Slots Insertions"
Moulessehoul Wassila (University Abu Bekr Belkaid of Tlemcen, Algeria), Ferouani Souheyla (Univ Belhadj Bouchaib Ain Temouchent, Algeria), Meriah Sidi Mohamed (University Abu Bekr Belkaid of Tlemcen, Algeria)
- **Paper ID 95:** "Design and Analyzes of Dual Band Microstrip Antenna based on Complementary Split Ring Resonator"
Hayat Benosman (Faculty of Technology, Abou-Bekr Belkaïd University, Tlemcen, Algeria), Fayza Bousalah (Faculty of Technology, Abou-Bekr Belkaïd University, Tlemcen, Algeria)
- **Paper ID 96:** "Elliptical Shaped UWB Antenna with Broadband Circularly Polarized Antenna for GPR Applications"
Mohammed Guerroui (Université 8 Mai 1945 Guelma, Guelma, Algeria), Abdelhalim Chaabane (Université 8 Mai 1945 Guelma, Guelma, Algeria), Ahcene Boualleg (Université 8 Mai 1945 Guelma, Guelma, Algeria) 1Laboratoire des Télécommunications-LT, Département d'Electronique et Télécommunications, Université 8 Mai 1945 Guelma, Guelma, Algeria)
- **Paper ID 98:** "Design of tri-Band Coaxial Probe-Feed Multi-Slotted Rectangular Patch Antenna"
Malika Ouacifi, University Kasdi Merbah Ouargla, Ouargla, Algeria, Karim Ferroudji (Sciences and Technologies LARBI Tebessi University Tebessa, Algeria), Mounir Amir (University Mouloud MAAMRI of Tizi Ouzou Tizi Ouzou, Algeria) , Fouad Chebbara (University Kasdi Merbah Ouargla, Ouargla, Algeria)
- **Paper ID 105:** "A Novel 0.5 GHz / 2 GHz Dual-Band Antenna for Surfaces Penetrating Application"
Abderrezak Khalfallaoui (Université 8 Mai 1945 Guelma, Guelma, Algeria), Abdelhalim Chaabane (Université 8 Mai 1945 Guelma, Guelma, Algeria), and Abdesselam Babouri (Université 8 Mai 1945 Guelma, Guelma, Algeria)
- **Paper ID 124:** "Design of an Ultra-Wideband Semi-Circular Patch Antenna"
Karim Ferroudji (Sciences and technologies Faculty ,Electrical engineering Dept. LARBI Tebessi University Tebessa, Algeria), Malika Ouacifi (Sciences and technologies Faculty ,Electrical engineering Dept. LARBI Tebessi University Tebessa, Algeria), Mounir Amir (University Mouloud MAAMRI of Tizi Ouzou Tizi Ouzou, Algeria) , Fouad Chebbara (University Kasdi Merbah Ouargla, Ouargla, Algeria)

Session 6 - (15:30-18:15): Renewable Energy

- **Session Chair:** Dr. **Sarah El Himer**, FST, SMBA University Fez, Morocco

Dr. **Choroq Zadelkhair El Archi**, ENSET, Mohammed V University, Rabat, Morocco

- **Paper ID 3:** “Energy efficiency in buildings: Numerical study of the impact of integrating Phase Change Materials into the walls”

Zakaria Ouaouja (Faculty of Sciences, Moulay Ismaïl University, Meknes, Morocco), Abdellah Ousegui (Faculty of Sciences, Moulay Ismaïl University, Meknes, Morocco)

- **Paper ID 40:** “Methodological Aspects of Small-Scale Biogas Production and Treatment for Energy Utilization”

Othmane Maakoul (Hassan 1st University, Faculty of Sciences and Technology, Settati, Morocco), Ruth Beaulanda (Hassan 1st University, Faculty of Sciences and Technology, Settati, Morocco), Aziza Abid (National School of applied sciences, Sultan Moulay Slimane University, Khouribga, Morocco), Hamid El Omari (Hassan 1st University, Faculty of Sciences and Technology, Settati, Morocco), Elhassane Essabri

- **Paper ID 70:** “A Closer Look at the Lead Acid Batteries Performances Based on the Online Prediction of the State of Charge and the State of Health”

Kamal Hirech (Faculty of Sciences, Mohamed First University, Oujda, Morocco), Mustapha Melhaoui (Faculty of Science and Technology, Cadi Ayyad University, Marrakech, Morocco), Ilyas Atmane (Faculty of Sciences, Mohamed First University, Oujda, Morocco), Khalil Khassmi (Faculty of Sciences, Mohamed First University, Oujda, Morocco)

- **Paper ID 108:** “IP Controller Applied to a WECS Equipped by a DFIG for MPPT Power Production with System Losses Calculation”

M. Boutoubat (Laghout University, Algeria), B.K. Oubbati (Laghout University, Algeria), **A. Hadjaissa** (Laghout University, Algeria)

- **Paper ID 125:** “Identification of PV Solar Cells and Modules Parameters from Experimental I-V Curves using Reduced Form Approach”

Kawtar Tifidat (Faculty of Sciences, Ibn Zohr University, Agadir, Morocco), Noureddine Maouhoub (Faculty of Sciences, Ibn Zohr University, Agadir, Morocco), Abdelaziz Benahmida (Faculty of Sciences, Ibn Zohr University, Agadir, Morocco)

- **Paper ID 127:** “Artificial Neural Network-based Modeling of Photovoltaic Panels using Backpropagation Algorithm”

Abdelouadoud Loukriz (Mohamed KHIDER, Biskra, Algeria), Amar Mezache (Mohamed BOUDIAF, M'sila, Algeria), Abdelhamid Kherbachi (Blida1, Blida, Algeria), Ahmed Bendib (Blida1, Blida, Algeria)

- **Paper ID 146:** “Neural Network Prediction of Non-Fullerene Organic Solar Cells under Indoor Aging Experiments”

Naas Djeddaoui (University of Djelfa, Djelfa), Larbi Boukezzi (University of Djelfa, Djelfa, Algeria), Bessissa Lakhdar (University of Djelfa, Djelfa, Algeria)

- **Paper ID 165:** “Energy Management Strategy of an Isolated DC-Microgrid Adopting Photovoltaic and Hybrid Energy Storage System: Assessment of Solar Condition Impact”

Hartani Mohamed Amine (University Draia Ahmed, Adrar, Algeria), Hamouda Messaoud (University Draia Ahmed, Adrar, Algeria), Abdelkhalek Othmane (University Tahri Mohamed, Bechar, Algeria), Mekhilef Saad (University Malaya, Kuala Lumpur, Malaysia), Benabdelkader Abdallah (University Tahri Mohamed, Bechar, Algeria), Hafsi Oussama (University Tahri Mohamed, Bechar, Algeria)

- **Paper ID 188:** “State Machine Control of DC Microgrid based on PV/Wind/FC/Battery”

Hafsi Oussama (University of Tahri Mohamed, Bechar-Algeria), Abdelkhalek Othmane (University of Tahri Mohamed, Bechar-Algeria), Soumeur Mohammed Amine (University of Tahri Mohamed, Bechar-Algeria), Hartani Mohamed Amine (University of Ahmed Draia Adrar-Algeria), Chakar Abdeselem (University of Tahri Mohamed, Bechar-Algeria)

Thursday March 25th, 2021

Plenary Speaker 4 - (09:15-10:00)

- **Speaker:** Dr. Sarah El Himer, FST, SMBA University Fez, Morocco
- **Title:** “*Concentrated Photovoltaic Technology (CPV) in Morocco*”
- **Session Chair:** Dr. Mariyam Ouaisa, Moulay Ismail University Meknes, Morocco

Plenary Speaker 5 – (10:00-10:40)

- **Speaker:** Dr. Gürkan Solmaz, NEC Laboratories Europe, Germany
- **Title:** “*Combining IoT and ML for Situation Awareness*”
- **Session Chair:** Dr. Zakaria Boulouard, FST Mohammedia, Hassan II University, Morocco

Session 7 - (10:45-13:15): Software Computing

- **Session Chairs:** Dr. Khadija Lettrache, FST Mohammedia, Hassan II University, Morocco
Dr. Ahmed Oussous, FST Mohammedia, Hassan II University, Morocco
- **Paper ID 10:** “COVID-19 Situation in Hungary using Time Series Analysis”
Aadil Gani Ganie (University of Miskolc, Miskolc, Hungary), Mohd Aaqib Lone (University of Miskolc, Miskolc, Hungary), Owais Mujtaba Khanday (University of Miskolc, Miskolc, Hungary), Samad Dadvandipour (University of Miskolc, Miskolc, Hungary)
- **Paper ID 49:** “Performance Analysis of Pioneer Single Baseline Phase Unwrapping Techniques”
Tarek Bentahar (Larbi Tebessi University, Tebessa, Algeria), Atef Bentahar (Larbi Tebessi University, Tebessa, Algeria), Riad Saidi (Larbi Tebessi University, Tebessa, Algeria)
- **Paper ID 57:** “OBDA Integration Approach for Web Analytics”
Abdelmoutia Telli (University of Biskra, Biskra, Algeria), Abdelouahab Belazoui Arar (University of Batna 2, Batna, Algeria), Chafik Arar Arar (University of Batna 2, Batna, Algeria)
- **Paper ID 62:** “Mobile and Adaptive Medical Application to Enhance Chronic Disease Self-Management”
Abdelouahab Belazoui (University of Batna 2, Batna, Algeria), Abdelmoutia Telli (University of Biskra, Biskra, Algeria), Chafik Arar (University of Batna 2, Batna, Algeria)
- **Paper ID 100:** “Traffic Characterization of Mobile Networks in Lagos, Nigeria”
Kazeem Sodiq (Yaba College of Technology Lagos, Nigeria), Samuel Osokoya (Yaba College of Technology Lagos, Nigeria), Kamilu Sanusi (Waziri Umaru Federal Polytechnic, Birnin Kebbi, Nigeria), Rafiu Jimoh (Geomodelling and Geoexplore Consultants, P.O.Box 302, Ikorodu, Lagos Nigeria), Lateef Salu (Yaba College of Technology Lagos, Nigeria), Akeem Otapo (Yaba College of Technology Lagos, Nigeria), Victor Otunubi (Yaba College of Technology Lagos, Nigeria)
- **Paper ID 128:** “A Robust Face Recognition Method Based on ALTP And SIFT”
Hattab Abdessalam (University of Batna 2, Batna, Algeria), Behloul Ali (University of Batna 2, Batna, Algeria)
- **Paper ID 152:** “Analysis Of Accuracy Of The Simple Additive Weighting Method In The Application Of Determining School Scholarship Recipients”
Ardian Pamungkas (University of Duta Bangsa Surakarta, Surakarta, Indonesia), Faulinda Ely Nastiti (University of Duta Bangsa Surakarta, Surakarta, Indonesia), Singgih Purnomo (University of Duta Bangsa Surakarta, Surakarta, Indonesia)
- **Paper ID 167:** “Evaluation of Motunar Ontology”
Degachi Haifa (University of Sfax, Tunisia), Yengui Ameni, Neji Mahmoud (University of Sfax, Tunisia)
- **Paper ID 168:** “Blood Vessel Segmentation in Retinal Images using Coye's Filter Approach”
Taibi Mostafa (Ibn Tofail University, Kénitra, Morocco), Allaoui Rabha (National School of Sciences Applied, Khouribga, Morocco), Touahni Raja (Ibn Tofail University, Kénitra, Morocco)
- **Paper ID 181:** “3D Face Identification Based on Normal MAPS”
Ahmed Yassine Boumedine (USTO-MB, Oran, Algeria), Samia Bentaieb (USTO-MB, Oran, Algeria) and Abdelaziz Ouamri (USTO-MB, Oran, Algeria)
- **Paper ID 194:** “Predicted 3D Structures of Olfactory Receptor (OR1G1)”
Mohammed Mouhcine (Hassan II University, Casablanca, Morocco), Houda Filali (Hassan II University, Casablanca, Morocco)

Session 8 - (10:45-13:15): Electronic Engineering

- **Session Chair: Dr. Asmae Babaya**

- **Paper ID 6:** “Electronically Reconfigurable Hm-Siw Band-Pass Filter Based on New Csrr Design using Pin Diodes”
Hichem Boubakar (Tahri Mohammed University Bechar, Algeria), Mehadj Abri (Faculty of Technology, Tlemcen University, Tlemcen, Algeria) and Mohamed Benaissa (Faculty of Technology, Tlemcen University, Tlemcen, Algeria)
- **Paper ID 38:** “Artificial Neural Network for Monitoring of PID Gains of Solenoid Response based on Fiber Squeezer”
Said Amrane (University Ibn Zohr, Agadir, Morocco), Abdallah Zahidi (National Institute of Posts and Telecommunications, Rabat, Morocco), Nawfel Azami Zahidi (National Institute of Posts and Telecommunications, Rabat, Morocco), Mostafa Abouricha (University Ibn Zohr, Agadir, Morocco), Naoual Nasser (University Hassan 1st, Settat, Morocco), and Mohamed Errai (University Ibn Zohr, Agadir, Morocco)
- **Paper ID 56:** “Indoor Positioning System Based on Low Complexity Hybrid Algorithm using Vlc0”
Ameur Chaabna (University of 8 Mai 1945 Guelma, Guelma, Algeria), Abdesselam Babouri Chaabna (University of 8 Mai 1945 Guelma, Guelma, Algeria), Abdelaziz Ladjimi Chaabna (University of 8 Mai 1945 Guelma, Guelma, Algeria), Halim Chouabia Chaabna (University of 8 Mai 1945 Guelma, Guelma, Algeria), Takoua Hafsi (University of Badji Mokhtar Annaba, Annaba) and Xun Zhang (Higher Institute of Electronics of Paris, Paris, France)
- **Paper ID 60:** “Metal-Insulator Transition in 70ge:Ga Semiconductor by Applying the Scaling Laws”
Errai Mohamed (University Ibn Zohr, Agadir, Morocco), Amrane Said (University Ibn Zohr, Agadir, Morocco), C.-T. Liang (National Taiwan University, Taipei 106, Taiwan)
- **Paper ID 71:** “The Impact of Hiding Confidential Speech in the Pitch of Standard Melp Vocode”
Hamza Kheddar (University of Medea, Medea, Algeria), Merouane Bouzid (USTHB University, Algiers, Algeria)
- **Paper ID 76:** “Far Field Prediction from Near Field using the Plane Wave Spectrum Method ”
Mohamed Amine Benchana (University of 8 Mai 1945 Guelma, Guelma, Algeria), Abderrezak Khalfallaoui (University of 8 Mai 1945 Guelma, Guelma, Algeria), Abdelhalim Chaabane (University of 8 Mai 1945 Guelma, Guelma, Algeria), Abdesselam Babouri (University of 8 Mai 1945 Guelma, Guelma, Algeria), Abdelaziz Ladjimi (University of 8 Mai 1945 Guelma, Guelma, Algeria), Zouheir Riah (High school of engineering ESIGELEC, Rouen, France)
- **Paper ID 133:** “Electromagnetic Characterization of a New Split Ring Metamaterial Resonator for Microwave Applications”
Berka Mohammed (University of M. Stambouli, Mascara, Algeria), Mahdjoub Zoubir (Sidi Bel Abbès, Algeria), Bendaoudi Amina (Sidi Bel Abbès, Algeria), Rouabhi Ahmed Yacine (Sidi Bel Abbès, Algeria)
- **Paper ID 134:** “Fault Signature Analysis for an Operational Amplifier Inverter using a Bist Technique”
Kouachi Sabah (Ferhat Abbas Setif 1 University), Bourouba Nacerdine (Ferhat Abbas Setif 1 University)
- **Paper ID 154:** “Half-Bridge Models used in Power Converters Real-Time Simulations”
Saif Alsarayreh (University of Technology and Economics, Budapest, Hungary), Zoltán Sütő (University of Technology and Economics, Budapest, Hungary)
- **Paper ID 173:** “Real-Time Modeling of the Pseudo-Random Modulation and its Effect against Electromagnetic Interferences Conducted in A Buck Converter”
Zakaria M'barki (Higher School of Technology ESTC, Hassan II University, Casablanca, Morocco), Kaoutar Senhaji Rhazi (Higher School of Technology ESTC, Hassan II University, Casablanca, Morocco), Youssef Mejdoub (Higher School of Technology ESTC, Hassan II University, Casablanca, Morocco)

Session 9 - (10:45-13:15): Chemical, Environmental and Industrial Engineering

- **Session Chair:** Dr. **Mouna Berquedich**, Mohammed VI Polytechnic University, Morocco
- **Paper ID 43:** "Assessment of Particulate Matter (PM10) using Chemistry Transport Modeling in Agadir City, Morocco"
Amine Ajdour (University Ibn Zohr, Agadir, Morocco), Radouane Leghrib (University Ibn Zohr, Agadir, Morocco), Jamal Chaoufi, Hassan Fetmaoui (University Ibn Zohr, Agadir, Morocco), Mohamed Bousseta (University Ibn Zohr, Agadir, Morocco), Ahmed Chirmata (Wilaya of Agadir, Agadir, Morocco)
- **Paper ID 63:** "The Use of a Recurrent Neural Network for Forecasting Ozone Concentrations in the City of Agadir (Morocco)"
Anas Adnane (University Ibn Zohr, Agadir, Morocco), Redouane Leghrib (University Ibn Zohr, Agadir, Morocco), Jamal Chaoufi (University Ibn Zohr, Agadir, Morocco), Ahmed Chirmata Chirmata (Wilaya of Agadir, Agadir, Morocco)
- **Paper ID 101:** "Numerical Simulation of the Advection-Diffusion Equation using Finite Difference and Operator Splitting Methods"
Inasse El Arabi (Faculty of Science and Technology, Fes, Morocco), Anas Chafi (Faculty of Science and Technology, Fes, Morocco), Salaheddine Kammouri Alami (Faculty of Science and Technology, Fes, Morocco)
- **Paper ID 115:** "Synthesis and Characterization of CU-DOPED SNO₂ (SN0.98CU0.02O₂) Thin Film by Sol-Gel Technique for LPG SENSING."
Bouabida Seddik (Larbi ben m'hidi university, Oum El Bouaghi, Algeria), Benkara Salima (Larbi ben m'hidi university, Oum El Bouaghi, Algeria), Ghamri Houda (Hadj Lakhder University, Batna, Algeria), Fares Abdelhakim (Larbi ben m'hidi university, Oum El Bouaghi, Algeria), Seghairi Nassima, Houads Hanane
- **Paper ID 138:** "Effect of Uv-Light Illumination on Room-Temperature-Zno Nanotubes for Ethanol Gas Sensing"
Brahim Ydir (University Ibn Zohr, Agadir, Morocco), Omar Bouaaliouat (University Ibn Zohr, Agadir, Morocco), Houda Lahlou (University Ibn Zohr, Agadir, Morocco), Mohamed Bousseta (University Ibn Zohr, Agadir, Morocco), Es Said Akhouayri (University Ibn Zohr, Agadir, Morocco), Vanessa Fierro (UMR 7198 CNRS-UL, Epinal, France), Alain Celzard (UMR 7198 CNRS-UL, Epinal, France), Daniel Prades (Engineering-UB, Barcelona, Spain)
- **Paper ID 140:** "Contribution of Electrical Prospecting (Trained and Electrical Sounding) to the Study of Iron Veins in the Ziaïda Sector (North-Western Meseta, Morocco)"
Ahmed Hamidi (University of Moulay Ismail, ENSAM Meknes, Morocco), Ahmed Benamara (University of Moulay Ismail, ENSAM Meknes, Morocco)
- **Paper ID 155:** "Contribution of Satellite Imagery in the Detection and Mapping of Air Pollution: Case of Great El Jadida, Morocco"
Abdelmejid Rahimi (Chouaib Doukkali University, El Jadida, Morocco), Mohamed Amine Slimani (Chouaib Doukkali University, El Jadida, Morocco), **Ikram Elmjiri** (Chouaib Doukkali University, El Jadida, Morocco), Abdelkrim Bouasria (Chouaib Doukkali University, El Jadida, Morocco)
- **Paper ID 158:** "The Willingness of Employee to Adopt Lean Six Sigma in a Pharmaceutical Small And Medium Enterprise In Germany"
Youssef Sabbani (Faculty of Sciences and Technologies, Fez, Morocco), Abdelouahed Boutayeb (Faculty of Sciences and Technologies, Fez, Morocco), Abderrahim Chamat (Faculty of Sciences and Technologies, Fez, Morocco), Ennadi Abdelali (Faculty of Sciences and Technologies, Fez, Morocco)
- **Paper ID 193:** "Predictive Decision Support on Digital Twin in the Context of Industry 4.0: Global Architecture in Mine Industry"
Mouna Berquedich (Mohammed VI Polytechnic University), Oulaid Kamach (Mohammed VI Polytechnic University), Ahmed Chebak (Mohammed VI Polytechnic University)
- **Paper ID 195:** "Natural Fiber Reinforced Polystyrene Composite: Study of the Thermal Aging on Mechanical Behavior"
Maria Jabri (FS Meknes, Moulay Ismail University Morocco), Fatima Bouhlifi (FS Meknes, Moulay Ismail University Morocco), Ilyasse Loulidi (FS Meknes, Moulay Ismail University Morocco)

Break- (13:15-14:00)

Plenary Speaker 6- (14:00-14:40)

- **Speaker:** Dr. Addi Ait-Mlouk, Uppsala University, Sweden
- **Title:** “Federated learning: Privacy preserving with FEDn ”
- **Session Chair:** Dr. Zakaria Boulouard, FST Mohammedia, Hassan II University, Morocco

Break- (14:40-14:45)

Session 10 - (14:45-17:15): Mechanical Engineering

- **Session Chair:** Dr. Khadija Hmina, ENSAM Meknes, Moulay Ismail University, Morocco
- **Paper ID 27:** “Comparison Between IP and Sliding Mode Speed Controller for DTC Of Doubly Fed Induction Motor”
Youcef Bekakra (University of El Oued, P.O. Box789, El Oued, Algeria)
- **Paper ID 80:** “Experimental Fault Detection in Induction Motors by MCSA Complemented by Infrared Thermography Technique”
Bouras Abdelkarim (Badji Mokhtar University, Annaba, Algeria), Bouras Slimane (, Badji Mokhtar University, Annaba, Algeria)
- **Paper ID 107:** “Sensorless Backstepping Control using a Extended Kalman Filter for Double Star Induction Motor”
Hadji Chaabane (Department of the Electrical Engineering M’sila), Khodja Djalal Eddine (Signals & Systems Lab, Boumerdes, Algeria)
- **Paper ID 121:** “Transient Analysis of Wind Turbine Grounding System Buried in Uniform and Stratified Soil”
Djaborrebbi Amina (University of Amar Telidji, Laghouat), Zegnini Boubakeur (University of Amar Telidji, Laghouat), Seghier Tahar (University of Amar Telidji, Laghouat), Mahi Djillali (University of Amar Telidji, Laghouat)
- **Paper ID 142:** “Dynamic Fracture Behavior of a Small Vertical Axis Wind Turbine Blade”
Kamilia Leksir (University of M’hamed Bougara, Boumerdes), Samir Lecheb (University of M’hamed Bougara, Boumerdes), Ahmed Chellil (University of M’hamed Bougara, Boumerdes), Idir Belaidi (University of M’hamed Bougara, Boumerdes), Hamza Mechakra (University of M’hamed Bougara, Boumerdes)
- **Paper ID 196:** “Simulation of Masonry Compressive Behavior using Detailed Micro-Modeling and Multi-Scale Modeling”
Khalil Naciri (National Higher School of Engineering (ENSAM), Meknes, Morocco), Issam Aalil (National Higher School of Engineering (ENSAM), Meknès, Morocco), Ali Chaaba (National Higher School of Engineering (ENSAM), Meknes, Morocco)

Session 11 - (14:45-17:15): Materials Engineering

- **Session Chair:** Dr. Ilyas Bouziani, FS Meknes, Moulay Ismail University, Morocco
- **Paper ID 88:** "Vibration Analysis of Square Plates Coupled with a Supersonic Airflow"
Saber Ziari (Faculty of Applied Science, Ouargla University, Algeria), Rassim Belakroum (Faculty of Applied Science, Ouargla University, Algeria)
- **Paper ID 102:** "Design and Analysis of Hybrid Octagonal Air Core Photonic Crystal Fiber for High Birefringence and Ultra-Flattened Zero Chromatic Dispersion"
Abdelkader Sonne (Amar Telidji University Laghouat), Ahmed Belkheiri, Belkacem Yousfi (Amar Telidji University Laghouat)
- **Paper ID 103:** "Numerical Study of Coupled Heat Transfers in an Unvented Trombe Wall"
Zouhair Charqui (Cadi Ayyad University, Marrakesh), Mohammed Boukendil (Cadi Ayyad University, Marrakesh), Lahcen El Moutaouakil (Cadi Ayyad University, Marrakesh), Zaki Zrikem (Cadi Ayyad University, Marrakesh), Abdelhalim Abdelbaki (Cadi Ayyad University, Marrakesh)
- **Paper ID 119:** "Optimization of Microstrip Ring Resonator for the Characterization of Different Dielectric"
Mounir Amir (University Mouloud Mammeri of Tizi-Ouzou, Tizi-Ouzou), Hichem Amar (Centre de Recherche en Technologies Industrielles CRTI ex-CSC, Cheraga, Algeria)
- **Paper ID 122:** "Boron Nitride Nanotubes-Based Gas Sensors of Sf6 Decomposed Components for Analyzing the Running Status of High-Voltage Insulated Equipment"
Chenaf Tahar (University of Amar Telidji, Laghouat), Zegnini Boubakeur (University of Amar Telidji, Laghouat), Seghier Tahar (University of Amar Telidji, Laghouat), Benghia Ali (University of Amar Telidji, Laghouat)
- **Paper ID 129:** "Lattice Boltzmann Simulations of Coupled Mixed Convection and Radiation Effect in a Two-Sided Lid-Driven Enclosure"
Youssef Dahani (Faculty of Sciences Semlalia, Cadi Ayyad University, Marrakesh), Mohammed Hasnaoui (Faculty of Sciences Semlalia, Cadi Ayyad University, Marrakesh), Abdelkhalek Amahmid (Faculty of Sciences Semlalia, Cadi Ayyad University, Marrakesh), Ismail Filahi (Faculty of Sciences Semlalia, Cadi Ayyad University, Marrakesh), Abdelmajid Mansour (Faculty of Sciences Semlalia, Cadi Ayyad University, Marrakesh), Safae Hasnaoui (Faculty of Sciences Semlalia, Cadi Ayyad University, Marrakesh)
- **Paper ID 136:** Graphical discrimination of the phonocardiogram signal based on the bispectral method
Sid Ahmed Berraih (Faculty of Technology, Tlemcen University), Y.N. Baakek (Faculty of Technology, Tlemcen University), S.M. Debbal (Faculty of Technology, Tlemcen University)
- **Paper ID 151:** "An Investigation of Optical Gain of Nanomaterial AlGaAsIn/InP under CTLs in Optical Communications"
Pyare Lal (Banasthali Vidyapith (Rajasthan) INDIA)
- **Paper ID 153:** "Lattice Boltzmann simulation of MHD Rayleigh-Bénard natural convection in a cavity filled with a ferrofluid"
K. Chtaibi (Cadi Ayyad University, Faculty of Sciences Semlalia, Marrakesh, Morocco), M. Hasnaoui (Cadi Ayyad University, Faculty of Sciences Semlalia, Marrakesh, Morocco), Y. Dahani (Cadi Ayyad University, Faculty of Sciences Semlalia, Marrakesh, Morocco), A. Amahmid (Cadi Ayyad University, Faculty of Sciences Semlalia, Marrakesh, Morocco)
- **Paper ID 166:** "Numerical study of natural convection in a square cavity with two heat-generating blocks"
Rachid Hidki (Cadi Ayyad University, Marrakesh, Morocco), Lahcen El Moutaouakil (Cadi Ayyad University, Marrakesh, Morocco), Mohammed Boukendil (Cadi Ayyad University, Marrakesh, Morocco), Zouhair Charqui (Cadi Ayyad University, Marrakesh, Morocco), and Zaki Zrikem (Cadi Ayyad University, Marrakesh, Morocco)

Friday March 26th, 2021

“Special Session in 3D Printing” : 09:00-12:00

Panel Moderator: Dr. Hanane Yaagoubi, Mohamed V University, Morocco

Keynote Speakers:

- Eng. Mouna Taroua, Lazarus 3D, USA
Title: The Use of 3D Printing for Surgical Rehearsals and Surgical Planning
- Prof. Dr. Mouhsine Lakhdissi, FST Settat, Hassan 1er University, Morocco
Title: The Combination of 3D and Digital Technologies for Industrial Performance
- Prof. Dr. Belhouideg Soufiane, Sultan Moulay Slimane University, Beni Mellal Morocco
Title: From 3D Printing to 4D Printing
- Eng. Paula Nashat Rady, Trim Academy, Egypt
Title: How to Use 3D Printing Machines

Break- (12:00-14:00)

Plenary Speaker 7 – (14:00-14:40)

- ***Speaker:*** Prof. Dr. Oulaid Kamach, National School of Applied Sciences , University of Abdelmalek ESSAADI Tangier, Morocco
- ***Title:*** “Industry 4.0”
- ***Session Chair:*** Dr. Mouna Berquedich, Mohammed VI Polytechnic University, Morocco

Plenary Speaker 8 – (14:40-15:20)

- ***Speaker:*** Prof. Dr. Yassine Rhazali, High School of Technology, Moulay Ismail University Meknes, Morocco
- ***Title:*** “Create Software from Specifications Automatically through MDA Approach”
- ***Session Chair:*** Dr. Mariya Ouaisa, Moulay Ismail University Meknes, Morocco

Closing Speech- (15:20-16:00)