2th International Conference On Electronic Engineering and Renewable Energy (ICEERE'20)
SAIDIA, MOROCCO
13-15 APRIL 2020

# Program and Useful information

**13-15 April 2020**

**Hotel, Be-Live, Saidia, Morocco**

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# WELCOME MESSAGE FROM GENERAL CHAIRS

It is our great pleasure to welcome you to the second edition of the International Conference on Electronic Engineering and Renewable Energy (ICEERE'20) which will be held from 13th to 15th April, 2020 in Saidia city, Morocco.

The 2nd ICEERE'20 provides an international platform for electrical engineers and experts to highlight key issues and developments essential to the multifaceted field of electrical engineering systems and seeks to address multidisciplinary challenges in Information and Communication Technologies. The conference has also a special focus on energy challenges for developing the Euro-Mediterranean regions by the application of the new technologies of renewable energy in agriculture activities and rural areas.

ICEERE'20 is intended for academia, including graduate students, experienced researchers and industrial practitioners working in the fields of Electronic Engineering and Renewable Energy. This event includes different kinds of presentations given by researchers and experts from the international community, including keynote speakers, special sessions, posters and tutorials. It covers a wide spectrum of topics as renewable energy, electronics, materials and devices applications, image and signal processing and Network &telecommunications.

The overwhelming success of ICEERE'20 is doubtlessly the result of the commitment, perseverance, implication and hard work of different stakeholders, particularly, the Organizing Committee Members, Technical Program Committee members, keynote and invited talks speakers, technical sponsors and all the participants. We seize this opportunity to address them all our most sincere thanks and gratitude.

Last but not least, we wish all the participants in ICEERE'20 a very successful and fruitful conference and a wonderful and enjoyable stay in the wonderful city of Saïdia.

**Bekkay Hajji**
Mohammed First University
ENSA, Morccco.

**Abdelhamid Rabhi**
University of Picardy Jules Verne
France

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## ICEERE'20 VENUE: Hotel Be-Live, Saidia, Morocco

# TOPICS

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|---|---|
| **Session I** | **Solar energy- PV** |
| **Session II** | **Solar Energy –Thermal** |
| **Session III** | **Power Electronics and Control Systems** |
| **Session IV** | **Electric Vehicle** |
| **Session V** | **Electronics** |
| **Session VI** | **Materials and Devices Applications** |
| **Session VII** | **Wireless Networks and Information Systems** |
| **Session VIII** | **Image Processing and Information technology** |

# ICCERE '20 ADVANCED PROGRAM OVERVIEW

| Monday 13 April | |
|---|---|
| **8 :30 -9 :00**<br>Registration | |
| **9 :00 -10 :00**<br>Welcome and Opening | |
| **10 :00 – 10 :45**<br>**Keynot 1**<br>**Prof. Jouiad Mustapha (United Arab Emirates):**Use of surface plasmon resonance to enhance water splitting process through solar energy excitations | |
| **10:45 – 11:15**<br>Coffee Break / Poster -I | |
| **11:15 - 12:30**<br>Session I-1 | **11:15 - 12:30**<br>Session V-2 |
| **12:30 – 14:00**<br>Lunch | |
| **14 :00 – 15 :00**<br>**Keynot 2**<br>**Prof. Giuseppe Macro Tina (Italie) :** Active and Reactive Power Regulation in Domestic grid-Connected PV Systems | |
| **15:00 – 16:15**<br>Session V-1 | **15:00 – 16:15**<br>Session VI-1 |
| **16 :30 – 17:00**<br>Coffee Break | |
| **17 :00 – 18 :00**<br>**Keynot 3**<br>Prof. Na**cer Kouider M'Sirdi (France)** Autonomous Vehicle Platooning and Motion Control Models and Control Approaches? | |
| **18:00 - 19:00**<br>Session VI-2 | |

| Tuesday 14 April | |
|---|---|
| **8 :30 -9 :00**<br>Registration | |
| **9:00 – 10:00**<br>**Keynot 4**<br>**Prof. Ataollah Elahi(USA):** Emerging Low Power Wireless Technologies for IoT | |
| **10:00 – 11:00**<br>Session VIII | |
| **11:00 - 11:30**<br>Coffee Break / Poster -II | |
| **11:30 – 12:30**<br>**Keynot 5**<br>**Prof. Adel Mellit (Algérie) :** Advanced methods in photovoltaic output power forecasting: State of the art | |
| **12 :30 – 14 :00**<br>Lunch | |
| **14:00 – 15:00**<br>**Keynot 6**<br>**Prof. Pierre Temple (France) :** development of a lab-on-chip device for the in-situ monitoring of soil nitrogen | |
| **15:00 – 16:30**<br>Session II-1 | |
| **16 :30 – 17 :00**<br>Coffee Break | |
| **17 :00 - 18:30**<br>Session III-1 | **17 :00 - 18:45**<br>Session II-2 |

| Wednesday 15 April | |
|---|---|
| **8 :30-9 :00**<br>Registration | |
| **9:00 – 10:00**<br>**Keynot 7**<br>**Prof. Mustapha El Yaakoubi (France) :** Thin film Photovoltaics and caracterizations methods | |
| **10:00 – 11:15**<br>Session IV | **10:00 – 11:15**<br>Session VII |
| **11:15 - 11:45**<br>Coffee Break | |
| **11:45 – 12:45**<br>**Keynot 8**<br>**Prof. Ahmed Lakhssassi(Canada) :** Improving human health: Challenges and Methodology for controlling thermal doses during Cancer therapeutic treatment | |
| **12 :45 – 14 :00**<br>Lunch | |
| **14:00 – 15:00**<br>**Keynot 9**<br>**Prof. Jamal Jamai (ST-Microelectronics) :** Industry 4.0 in ST-Microelectronics Bouskoura | |
| **15:00 – 16:30**<br>Session I-2 | |
| **16 :30 – 17 :00**<br>Coffee Break | |
| **17:00 - 18:30**<br>Session III-2 | |
| **18 :30 -19 :00**<br><br>Closing Ceremony | |

# ICEERE'20 KEYNOTE SPEAKERS

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|  | **The development of a low-cost, robust and real-time analysis system based on electrochemical microsensors for the in-situ monitoring of soil nitrogen.**<br><br>**By Dr. Pierre Tmple-Boyer**<br>**Deputy director of LAAS-CNRS, Toulouse-France** |
|  | **Improving human health: Challenges and Methodology for controlling thermal doses during Cancer therapeutic treatment**<br><br>**By Dr. Ahmed Lakhssassi.**<br>**University of Quebec, Canada** |
|  | **Active and Reactive Power Regulation in Domestic grid-Connected PV Systems**<br><br>**By Dr. Giuseppe MarcoTina.**<br>**University of Catania, Italy** |
|  | **Emerging Low Power Wireless Technologies for IoT (ZigBee, 6LoWPAN and LoRaWAN)**<br><br>**By Dr. Ataollah Elahi**<br>**Southern Connecticut State University, USA** |
|  | **Advanced methods in photovoltaic output power forecasting: State of the art**<br><br>**By Dr. Adel Mellit**<br>**University of Jijel, Algeria** |
|  | **Use of surface plasmon resonance to enhance water splitting process through solar energy excitations**<br><br>**By Dr. Mustapha Jouiad**<br>**Masdar Institute, United Arab Emirates** |

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|  | **Thin film Photovoltaics and caracterizations methods**<br><br>**By Dr. Mustapha EL Yaakoubi**<br>**TFSC Instrument, France** |
|  | **Big Data and Cloud computing and in Smart Farming**<br><br>**By Mr. Mohamed Ait Alla**<br>**Google, Paris, France** |
|  | **Industry 4.0 in ST-Microelectronics Bouskoura**<br><br>**By Dr. Jamal Jamai**<br>**ST-Microelectronics, Bouskoura, Morocco** |
|  | **Autonomous Vehicle Platooning and Motion Control Models and Control Approaches? Features and characters**<br><br>**By Dr. Nacer Kouidar M'Sirdi**<br>**Aix Marseille University, France** |

# ICEERE'20 PROGRMA

## PRESENTATION GUIDELINES

- All presentations are in English.
- Each presentation is fifteen (15) 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.

## SESSIONS PROGRAM

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| **Session I-1**<br>**Monday, April 13, 2020**<br>**11:15 -12:30** | **Solar Energy- PV(1)**<br>**Chairs :**<br>**Adel Mellit, Jijel University, Algeria**<br>**Kamal Kassmi, EST, Mohamed First University, Morocco**<br>**Omar Mokhtari, EST, Mohamed First University, Morocco** |
| **11:15 -11:30** | Optimal Robust Model Free Control for Altitude of a Mini-Drorne Using PSO Algorithm (ID: 45).<br>***Hossam Eddine Glida, Latifa Abdou, Abdelghani Chelihi, Chouki Sentouh and Gabriele Perozzi*** |
| **11:30 -11:45** | Experimental assessment of Perturb & Observe, Incremental Conductance and Hill Climbing MPPTs for photovoltaic systems (ID: 69).<br>***Nassir Rouibah, Linda Barazane, Abdelhamid Rabhi, Bekkay Hajji, Amor Hamied, Adel Mellit and Rabah Bouhider*** |
| **11:45 -12:00** | Prediction of short-term and long-term hourly global horizontal solar irradiation using artificial neural networks techniques in Fez city, Morocco (ID : 35).<br>***Zineb Bounoua and Abdellah Mechaqrane*** |
| **12:00-12:15** | An Optimal Torque Control based on Effective Tracking Range for MPPT of Wind Power Generation Systems Based on PMSG (ID: 135).<br>***Meghni Billel, Chojaa Hamid, Msirdi Nacer and Ouada Mehdi*** |
| **12:15-12:30** | Behavior study of a new inverter topology for photovoltaic applications (ID: 68).<br>***Amari Yehya, Labdai Sami, Hasni Mourad, Rabhi Abdelhamid, Mellit Adel and Hajji Bekkay*** |

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| **Session I-2**<br><br>**Wednesday, April 15, 2020**<br><br>**15:00 -16:30** | **Solar Energy- PV (2)**<br><br>**Chairs :**<br><br>**Adel Mellit, Jijel University, Algeria**<br>**El Hayani Mohamed Larbi, ENSA, Mohamed First University, Morocco**<br>**Rabhi Abdelhamid, University of Picardie Jules Verne, Amiens France** |
| **15:00-15:15** | Production of Hydrogen by Excess Energy Resulting from a Photovoltaic System Supplying a Load of Nominal Power (ID: 111).<br>***Abdelhafid Messaoudi, Sanae Dahbi, Abdelhak Aziz and Kamal Kassmi*** |
| **15:15-15:30** | Performances MPPT enhancement in PMSG wind turbine system using Fuzzy Logic Control (ID: 127).<br>***Mhamed Fannakh, Mohamed Larbi Elhafyani, Zouggar Smail and Hassan Zahboune*** |
| **15:30-15:45** | The impact of the tilt angle on the sizing of Autonomous Photovoltaic Systems using Electric System Cascade Analysis (ID: 99).<br>***Mohammed Chennaif, Mohamed Larbi Elhafyani, Hassan Zahboune and Smail Zouggar*** |
| **15:45-16:00** | Modeling, Simulation and Real Time implementation of a WECS's MPPT based on the FOC algorithms applied to a DFIG (ID: 152).<br>***Nabil Dahri, Mohammed Ouassaid and Driss Yousfi*** |
| **16:00-16:15** | Energy management strategy for an optimum control of a standalone photovoltaic-batteries water pumping system for agriculture applications (ID: 153).<br>***Mohammed Benzaouia, Bekkay Hajji, Rabhi Abdelhamid, Adel Mellit, Anas Benslimane and Anne-Megan Dubois*** |
| **16:15-16:30** | Trade Openness and CO2 Emissions in Morocco: An ARDL bounds testing approach (ID: 13).<br>***Abdelkarim Jabri and Abdessamad Jaddar*** |

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| **Session II-1**<br><br>**Tuesday, April 14, 2020**<br><br>**15 :00 -16 :30** | **Solar Energy –Thermal (1)**<br><br>**Chairs :**<br><br>**Guisseppe Tina, Catania University, Italy**<br>**Samir Amraqui, EST, Mohamed First University, Morocco**<br>**E. Quaranta, European Commission, Joint Research Centre, Italy** |
| **15 :00 -15 :15** | Experimental Analysis on Internal Flow Field of Enhanced Heat Transfer Structure for Clean Gas Bus Engine Compartment (ID: 6)<br>***Jia-Jie Ou and Li-Fu Li*** |
| **15 :15 -15 :30** | Trays effect on the dynamic and thermal behavior of an indirect solar dryer using CFD method (ID:39).<br>***Dounia Chaatouf, Mourad Salhi, Benyounes Raillani, Nadia Dihmani, Samir Amraqui, Mohammed Amine Moussaoui and Ahmed Mezrhab*** |
| **15 :30 -15 :45** | The Application of Artificial Neural Network to predict cleanliness drop in CSP power plants using Meteorological measurements (ID: 50)<br>***Ahmed Alami Merrouni, Hicham El Gallassi, Abdellatif Ghennioui and Mimoun Chourak*** |
| **15:45 -16 :00** | Comparative study of different conical receiver's materials of a parabolic solar concentrator (ID: 59).<br>***Raja Idlimam, Mohamed Asbik and Abdellah Bah*** |
| **16 :00 -16 :15** | Three-dimensional analysis of the effect of transverse spacing between perforations of a deflector in a heat exchanger (ID: 60).<br>***Jamal-Eddine Salhi and Najim Salhi.*** |
| **16:15 -16 :30** | Numerical simulation of the flood risk of the deviation hydraulic structure at Saidia (North-East Morocco) (ID: 28).<br>***Boushaba Farid, Abdellatif Grari, Chourak Mimoune, Regad Youssef and Bachir Elkihel*** |

| Session II-2<br><br>Tuesday, April 14, 2020<br><br>17 :00 -18 :45 | **Solar Energy –Thermal (2)**<br><br>**Chairs :**<br><br>**Antonio Gagliano, Catania University, Italy**<br>**Ahmed Alami Merrouni, FSO, Mohamed First University, Morocco**<br>**Michele Calì, University of Catania, Italy** |
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| **17 :00 -17 :15** | Analysis of the energy produced and energy quality of nanofluid impact on photovoltaic thermal systems (ID: 65).<br>***Antonio Gagliano, Hajji Bekkay, Stefano Aneli and Giuseppe Tina*** |
| **17 :15 -17 :30** | Heat transfer and entropy generation for natural convection in a cavity with inner obstacles (ID: 66 ).<br>***Jamal Baliti*** |
| **17 :30 -17 :45** | Application of the random walk particle tracking for convection-diffusion problem within strait of Gibraltar (ID: 82).<br>***Hind Talbi, Mohammed Jeyar, Elmiloud Chaabelasri and Najim Salhi*** |
| **17 :45 -18:00** | Prediction of Particle Deposition Efficiency in a 90° Turbulent Bend Pipe Flow- A Numerical Study (ID: 137).<br>***Fatima Zahrae Erraghroughi, Kawtar Feddi, Anas El Maakoul, Abdellah Bah and Abdellatif Ben Abdellah*** |
| **18 :00 -18 :15** | Mass flow rates effect on the performance of PV/T bi-fluid hybrid collector (single and simultanuos modes). (ID: 159).<br>***Oussama El Manssouri, Chaimae El Fouas, Bekkay Hajji, Rabhi Abdelhamid, Tina Giuseppe and Gagliano Antonio*** |
| **18:15 -18 :30** | Numerical simulation of the sediment transport of the hydraulic diversion structure in Saidia (North-East of Morocco) (ID: 30).<br>***Boushaba Farid, Abdellatif Grari, Chourak Mimoun, Regad Youssef and Elkihel Bachir*** |
| **18 :30 -18 :45** | Study and modeling of energy performance of PV/T solar plant for hydrogen production (ID: 160).<br>***Chaimae El Fouas, Oussama El Manssouri, Bekkay Hajji, Giuseppe Marco Tina and Antonio Gagliano*** |

| Session III-1<br><br>Tuesday, April 14, 2020<br><br>17 :00 -18 :00 | **Power Electronics and Control System (1)**<br><br>**Chairs :**<br><br>**Nacer Msirdi, Aix Marseille University, Marseille, France.**<br>**Mohamed Belkheiri, Université Amar Telidji Laghouat, Algeria**<br>**Smail Zoggar, EST, Mohamed First University, Morocco** |
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| **17 :00 -17 :15** | Traction Inverter fault detection method based on Welch and K-Nearest Neighbor algorithm (ID: 27).<br>***Sara Zerdani, Mohamed Larbi El Hafyani and Smail Zouggar*** |
| **17 :15 -17 :30** | Voltage regulation of HV grid Connected to a 40MVA photovoltaic power plant (ID: 33).<br>***Mohamed Dib, Ali Nejmi and Mohamed Ramzi*** |
| **17 :30 -17 :45** | Robust Fuzzy Control techniques applied for Stabilization of a Quadrotor (ID: 41).<br>***Iliass ouachani, Katell Gadonna, Bilal Belaidi, Herve Billard*** |
| **17 :45 -18 :00** | Mechanical Modeling, Control and Simulation of a Quadrotor UAV (ID: 44).<br>***Hamid Hassani, Anass Mansouri and Ali Ahaitouf*** |
| **18 :00 -18 :15** | Circulating Current Control for Parallel Three-Level T-Type Inverters (ID: 81).<br>***Abdelmlaik Zorig, Said Barkat, Mohamed Belkheiri and Abdelhamid Rabhi*** |
| **18 :15 -18 :30** | An improved sinusoidal (PWM) and vector (SVPWM) current control for a three-phase photovoltaic inverter connected to a non-linear load (ID: 87).<br>***Abdelhak Lamreoua, Anas Benslimane, Jamal Bouchnaif, Mostafa El Ouariachi and Bekkay Hajji*** |

| Session III-2<br><br>Wednesday, April 15, 2020<br><br>17 :00 -18 :30 | **Power Electronics and Control System (2)**<br><br>**Chairs :**<br><br>**Chouki Sentouh, Hauts-de-France Polytechnic University, Valenciennes, France.**<br>**Aziz Naamane, Aix Marseille University, Marseille, France** |
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| **17 :00 -17 :15** | Processor in the loop implementation of state of charge estimation strategies for electric vehicle applications (ID: 119).<br>***Yahia Mazzi, Hicham Ben Sassi, Fatima Errahimi and Najia Es-Sbai*** |
| **17 :15 -17 :30** | Adaptive Intelligent Control of the ABS Nonlinear Systems Using RBF Neural Network Based on K-means Clustering (ID: 131).<br>***Hamou Ait Abbas, Abdelhamid Rabhi and Mohamed Belkhiri.*** |
| **17:30 -17 :45** | The Best Place of STATCOM in IEEE 14 Bus System to Improve Voltage profile using Neplan Software (ID: 133).<br>***Ismail Moufid, Hassane El Markhi, Hassan El Moussaoui and Tijani Lamhamdi*** |
| **17 :45 -18 :00** | Optimization of electromagnetic interference conducted in a devolver chopper (ID: 144).<br>***Mbarki Zakaria and Senhaji Rhazi Kaoutar*** |
| **18:00 -18 :15** | Design and Implementation of a Photovoltaic Emulator using an Insulated Full Bridge Converter based Switch Mode Power Supply (ID: 151).<br>***Mohammed Chaker, Driss Yousfi, Bekkay Hajji, Mustapha Kourchi, Mohamed Ajaamoun, Ahmed Benlarabi, Abd Rahim Nasrudin and Jeyraj Selvaraj*** |
| **18:15 -18 :30** | Breakdown Voltage Measurment in insulating oil of Transformer According to IEC standards (ID: 158).<br>***Seghir Mohamed, Seghier Tahar, Zegnini Boubakeur and Rabhi Abdelhamid.*** |

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| **Session IV**<br><br>**Wednesday, April 15, 2020**<br><br>**10 :00 -11 :15** | **Electric Vehicle**<br><br>**Chairs :**<br><br>**Reine Talj, Université de technologie de Compiégne-CNRS, France**<br>**Nacer Msirdi, Aix Marseille University, Marseille, France.**<br>**Ali Ahitouf, FST, University of Sidi Mohamed Ben Abdellah, Morocco** |
| **10 :00 -10 :15** | Energy Management Strategy for Hybrid Electric Vehicle Using Fuzzy Logic (ID: 37).<br>***Bilal Belaidi, Katell Gadonna, Iliass Ouachani, David Vanrechem and Herve Billard*** |
| **10 :15 -10 :30** | Simulation of a micro-grid for electric vehicles charging station (ID: 83).<br>***Rabah Bouhedir, Adel Mellit and Nassir Rouibah*** |
| **10:30 -10:45** | Design of fractional order sliding mode controller for lateral dynamics of electric vehicles (ID: 97).<br>***Imane Abzi, Mohammed Nabil Kabbaj and Mohammed Benbrahim*** |
| **10:45 -11 :00** | A decentralized multilayer sliding mode control architecture for vehicle's global chassis control, and comparison with a centralized architecture (ID: 149).<br>***Ali Hamdan, Abbas Chokor, Reine Talj and Moustapha Doumiati*** |
| **11:00 -11:15** | Energy Management Strategy based on a Combination of Frequency Separation and Fuzzy Logic for Fuel Cell Hybrid Electric Vehicles (ID: 155).<br>***Mohammed Essoufi, Bekkay Hajji and Abdelhamid Rabhi*** |

| Session V-1<br><br>Monday, April 13, 2020<br><br>15:00-16:15 | **Electronics (1)**<br><br>**Chairs :**<br><br>**Jerome Launay, LAAS-CNRS, Toulouse, France**<br>**Aissat Abdelkader, University of Blida, Algeria**<br>**Ahmed Lakhssassi, University of Quebec, Canada** |
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| **15:00 -15:15** | Application of HPSGWO to the optimal sizing of analog active filter (ID: 43).<br>***Abdelaziz Lberni, Malika Alami Marktani, Abdelaziz Ahaitouf and Ali Ahaitouf*** |
| **15:15 -15:30** | Design of a DC and low frequency CMOS active voltage attenuator and level shifter with minimal thermal sensitivity (ID: 75).<br>***Abdelkhalak Harrak and Salah Eddine Naimi*** |
| **15:30 -15:45** | Impact of InGaAs thickness and Indium content on the performance of (InP/InGaAs/InAlAs) MOSFET structure (ID: 77).<br>***S. Ammi, A. Aissat and L. Chenini*** |
| **15:45 -16:00** | Modeling and performance analysis of Si-NW ISFET microsensor (ID: 162) .<br>***Nabil Ayadi, Bekkay Hajji, Hamid Madani, Ahmet Lale, Jerome Launay and Pierre Temple-Boyer*** |
| **16:00 -16:15** | Medical cyclotron 18F radionuclides production simulation in a liquid target with a 16.5 MeV protons ( ID: 84).<br>***Camelea Miry, Mustapha Zerfaoui, Abdeslem Rrhioua, Abdelkader El Hamli, Mohammed Hamal, Abdelilah Moussa and Karim Bahhous*** |

| Session V-2<br><br>Tuesday, April 13, 2020<br><br>11:15-12:30 | **Electronics (2)**<br><br>**Chairs :**<br><br>**Pierre-Temple-Boyer, LAAS-CNRS, Toulouse, France**<br>**Jamal Jamai, ST-Microelectronics Bouskoura, Morocco**<br>**Bekkay Hajji, ENSA, Mohamed First University, Morocco** |
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| **11:15 -11:30** | Investigation of temperature and composition effects on the intersubband absorption of InGaAs/GaAs quantum wells r (ID: 71).<br>***L. Chenini, A. Aissat, S. Ammi and J.P Vilcot*** |
| **11:30 -11:45** | Theoretical modeling and optimization of GaAsPN/GaAs Tandem Dual-Junction Solar Cells (ID: 73).<br>***A. Bahi azzououm, A.Aissat, J. P.Vilcot*** |
| **11:45 -12:00** | Impact of InGaAs thickness and Indium content on the performance of (InP/InGaAs/InAlAs) MOSFET structure (ID: 77).<br>***S. Ammi, A. Aissat and L. Chenini*** |
| **12:00 -12:15** | Numerical Study of the Effect of Applied Voltage on Simultaneous Modes of Electron Heating in RF Capacitive Discharges (ID: 21).<br>***Abdelhak Missaoui, Morad Elkaouini and Hassan Chatei*** |
| **12:15 -12:30** | GATE simulation of 6 MV Photon Beam produced by Elekta medical linear accelerator (ID: 40).<br>***Deae-Eddine Krim, Abdeslem Rrhioua, Mustapha Zerfaoui, Dikra Bakari and Nacira Hanouf*** |

| Session VI-1<br><br>Monday, April 13, 2020<br><br>15:00 -16:15 | **Materials and Devices Applications (1)**<br><br>**Chairs :**<br><br>**Anne Migan Dubois, Central Supelec-CNRS, France**<br>**Bria Driss, Mohamed First University, Morocco**<br>**Mustapha Jouiad, Masdar Institute, United Arab Emirates** |
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| **15:00 -15:15** | Electromagnetic Filters Based on the Defectives Waveguide Electromagnetic Structure of Loops (ID: 38).<br>***Mimoun El Aouni, Youssef Ben Ali, Ilyass El Kadmiri, Zakaria Tahri and Driss Bria*** |
| **15:15 -15:30** | Effect of the hydrostatic pressure on the electronic states induced by a geo-material defect layer in a Multi-Quantum Wells structure (ID: 76).<br>***Fatima Zahra Elamri, Farid Falyouni and Driss Bria*** |
| **15:30 -15:45** | Simulation and optimization of Cds/ZnSnN2 structure for solar cell applications with SCAPS-1D software (ID: 79).<br>***A. Laidouci, A.Aissat, J. P.Vilcot*** |
| **15:45 -16:00** | A Numerical Study of InGaAs/GaAsP Multiple quantum Well solar cells using Radial Basis Functions (ID: 101).<br>***Kinani M'Hammed Adnane, Abdelaziz Amine, Mir Yamina and Zazoui Mimoun*** |
| **16:00 -16:15** | The Role of Plasmonics on the Photocatalytic Activity in Water Splitting (ID: 157).<br>***Mustapha Jouiad, Jehad Abed, Nitul Rajput, Adel Najar and Amine El Moutaouakil*** |

| Session VI-2<br><br>Monday, April 13, 2020<br><br>18:00 -19 :00 | **Materials and Devices Applications (2)**<br><br>**Chairs :**<br><br>**El Yaakoubi Mustapha, TFSC-Instrument, France**<br>**El Houssaine El Boudouti, Mohamed First University, Morocco**<br>**Sallah Eddine Naimi, ENSA, Mohamed First University, Morocco** |
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| **18:00 -18:15** | Plasmonic demultiplexer based on induced transparency resonances: Analytical and numerical study (ID: 103).<br>***Madiha Amrani, Soufyane Khattou, Adnane Noual, El Houssaine El Boudouti and Bahram Djafari-Rouhani*** |
| **18:15 -18:30** | Experimental and theoretical study of group delay times and density of states in one-dimensional photonic circuit (ID: 106).<br>***Soufyane Khattou, Madiha Amrani, Abdelkader Mouadili, El Houssaine El Boudouti, Abdelkrim Talbi, Bahram Djafari-Rouhani and Abdellatif Akjouj*** |
| **18:30 -18:45** | Optical properties of one-dimensional aperiodic dielectric structures based on Thue-Morse sequence (ID: 112).<br>***Hassan Aynaou, Noama Ouchani and El Houssaine El Boudouti*** |
| **18:45 -19:00** | Optical properties and first principles study of CH3NH3PbBr3 perovskite structures for solar cell application (ID: 161).<br>***Asma O. Al Ghaithi, S. Assa Aravindh, Mohamed N. Hedhili, Tien Khee Ng, Boon S. Ooi and Adel Najar*** |

| Session VII<br><br>Wednesday, April 15, 2020<br><br>10:00 -11:15 | **Wireless Networks and Information Systems**<br><br>**Chairs :**<br><br>**Ataollah Elahi, Southern Connecticut State University, USA**<br>**Saad Bennani, ENSA, Sidi Mohamed Ben Abdellah University, Morocco**<br>**Anass Mansouri, ENSA, Sidi Mohamed Ben Abdellah University, Morocco** |
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| **10:00 -10:15** | An Antenna Selection Algorithm for Massive MIMO Systems (ID: 36).<br>***Yassine Garrouani, Fatiha Mrabti and Aicha Alami Hassani*** |
| **10:15 -10:30** | Compact Structure Design of Band Pass Filter using Rectangular Resonator and Integrated Capacitor for Wireless Communications Systems (ID: 46).<br>***Belmajdoub Abdelhafid, Jorio Mohammed, Bennani Saad and Lakhssassi Ahmed*** |
| **10:30 -10:45** | Enhancing performances of a 60 GHz Patch Antenna Using Multilayer 2D Metasurfaces (ID: 105).<br>***Feriel Guidoum, Mohamed Lamine Tounsi, Noureddine Ababou and Mustapha C.E Yagoub*** |
| **10:45 -11:00** | Design of compact bandpass filter based on SRR and CSRR for 5G applications (ID: 130).<br>***Mohamed Amzi, Saad Dosse Bennani, Jamal Zbitou and Abdelhafid Belmajdoub*** |
| **11:00 -11:15** | Guidelines for scalable and reliable Photovoltaic Wireless Monitoring System: a Case of Study (ID: 143).<br>***Kamal Azghiou, Manal El Mouhib, Youssef Bikrat, Benlghazi Ahmed and Abdelhamid Benali*** |

| Session VIII<br>Tuesday, April 14, 2020<br>10:00 -11:00 | **Image Processing and Information Technology**<br><br>**Chairs :**<br><br>**Gilles Dequen, University of Picardie Jules Verne, France**<br>**Amine Koulali, ENSA, Mohamed First University, Morocco**<br>**Mohamed Ait Alla Google, Paris, France** |
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| **10:00 -10:15** | Embedded implementation of HDR image algorithm (ID: 47).<br>***Mohamed Sejai, Anass Mansouri, Saad Bennani Dosse and Yassine Ruichek*** |
| **10:15 -10:30** | Enhancing the Performance of Grayscale Image Classification by 2D Charlier Moments Neural Networks (ID: 108).<br>***Zouhir Lakhili, Abdelmajid El Alami and Hassan Qjidaa*** |
| **10:30 -10:45** | Density, Speed and Direction Aware GPSR Protocol for VANETs (ID: 80).<br>***Amina Bengag, Asmae Bengag and Mohamed Elboukhari*** |
| **10:45 -11:00** | Encrypted data sharing using Proxy ReEncryption in smart grid (ID: 114).<br>***Anass Sbai, Cyril Drocourt and Gilles Dequen*** |

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| **Monday, April 13, 2020** | **Poster Session -1** |
| | **Chairs :**<br><br>**Rabhi Abdelhamid, University of Picardie Jules Verne, Amiens France**<br>**El Ouariachi Mostafa, EST, Mohamed First University, Morocco** |
| **10 :45 -11 :15** | Efficient Memory Parity Check Matrix Optimization for Low Latency Quasi Cyclic LDPC Decoder (ID: 25).<br>***Benhayoun Mhammed, Mouhcine Razi, Anas Mansouri and Ahaitouf Ali*** |
| | Effective and robust detection of jamming attacks for WBAN-based healthcare monitoring systems (ID: 122).<br>***Asmae Bengag, Amina Bengag and Omar Moussaoui*** |
| | Numerical characteristics of hydrogenated silicon nitride SiH4/NH3/H2 plasma discharge for thin film solar cell deposition (ID: 90).<br>***Grari Meryem and Zoheir Cifallah*** |
| | Numerical simulation of Direct Carbon Fuel Cell using Multiple-relaxation-time lattice Boltzmann method (ID: 136).<br>***I. Filahi, M. Hasnaoui, A. Amahmid, A. El Mansouri, M. Alouah and Y. Dahani*** |
| | Comparison of SOC estimation algorithms for lithium battery (ID:34).<br>***Mouncef Elmarghichi, Bouzi Mostafa, Mounir Derri and Naoufal Ettalabi*** |
| | A Comparative Study Between a Unipolar and a Bipolar PWM used in Inverters for Photovoltaic Systems (ID: 91).<br>***Jalal Blaacha, Rachid Aboutni and Abdelhak Aziz*** |

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| **Tuesday, April 14, 2020** | **Poster Session -2** |
| | **Chairs :**<br><br>**Abdelhafid Messaoudi, EST, Mohamed First University, Morocco**<br>**Mohcine Koddad, EST, Mohamed First University, Morocco** |
| **11 :00 -11 :30** | Modeling traction propulsion system and electromagnetic disturbances of the feeding cables of machine (ID: 11).<br>***Moine El Hajji, Hassane Mahmoudi and Moussa Labbadi*** |
| | Physicochemical characterization of household and similar waste, for efficient and income-generating waste management in Morocco, city of Mohammadia (ID: 4).<br>***Akram Farhat, Kaoutar Lagliti, Mohammed Fekhaoui and Hassan Zahboune*** |
| | Sizing of a methanation unit with discontinuous digesters to optimize the electrical efficiency of a biogas plant, city of Oujda (ID: 16).<br>***Akram Farhat, Hassan Zahboune, Kaoutar Lagliti and Mohammed Fekhaoui*** |
| | Analysis of a Building-Mounted Wind-Solar Hybrid Power System in Urban Residential Areas: The Case Study of Istanbul (ID:64).<br>***Bulent Oral, Safak Saglam and Adel Mellit*** |
| | Maximum Power Extraction from a wind turbine energy source based on fuzzy and conventional techniques for integration in micro-grid (ID: 138).<br>***Salaheddine Zouirech, Mohammed Zerouali, Abdelghani El Ougli and Belkassem Tidhaf*** |
| | Management strategy of power exchange in a building between grid, photovoltaic and batteries (ID: 148).<br>***Mohammed Dhriyyef, Abdelmalek El Mehdi, Mohammed Elhitmy and Mohammed Elhafyani*** |
| | Design of an ISFET readout circuit with minimum temperature drift and good linearity (ID: 150).<br>***Abdelkhalak Harrak and Salah Eddine Naimi*** |