JAC-ECC 2022 Technical Program

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JAC-ECC2022 Conference Program
(At-A-Glance)

Day 1: Monday, December 19, 2022

Times	Activity\Session
9:00 – 10:00	**Registration and Reception**
10:00 – 10:45	**Opening Session** Hosts by: Prof. Adel B. Abdelrahman, (Conference Chair, E-JUST, Egypt), Prof. Haruichi Kanaya, (Conference Chair, Kyushu University, Japan), and Prof. Maha Elsabrouty, E-JUST, Egypt **Room:** Prof. Abo-Ismail Theater
10:45 – 11:30	**Keynote Session 1** **Room:** Prof. Abo-Ismail Theater **Chairs:** Prof. Haruichi Kanaya, Kyushu University, Japan, and Prof. Adel B. Abdelrahman, E-JUST **Keynote #1: Prof. Amr Adly, IEEE Fellow, E-JUST** **"Modeling and Simulation of Complex Systems Exhibiting Hysteresis"**
11:30 – 12:15	**Coffee Break**
12:15 – 13:00	**Keynote Session 2** **Room:** Prof. Abo-Ismail Theater **Chairs:** Prof. Tanamse Asano, Kyushu University, Japan, Prof. Mohamed ElMasry, University of Waterloo, Canada **Keynote #2: Prof. Toshio Fukuda, IEEE Fellow, E-JUST** **"AI Robots and Moon Shot Program"**
13:00 – 13:45	**Keynote Session 3** **Room:** Prof. Abo-Ismail Theater **Chairs:** Prof. Mohammed Abo-Zahhad, E-JUST, Egypt, and Prof. Osamu Muta, Kyushu University, Japan, **Keynote #3: Prof. Fumiyuki Adachi, IEEE Fellow, IEICE Fellow, Tohoku University, Japan** **"An effective interference suppression technique for a user-centric ultra-dense distributed MIMO towards realizing Beyond 5G systems"**
13:45 – 14:15	**Invited Session 1** **Room:** Prof. Abo-Ismail Theater **Chairs:** Prof. Ayman El Sayed, Menoufia University, Egypt, and Prof. Ahmed El-Mahdy, E-JUST, Egypt **Invited Speaker #1: Eng. Haitham El-Nakhal, Senior Expert, NTRA, Egypt** **"Data Centers"**
14:15 – 15:00	**Lunch Break**
15:00 – 15:45	**Keynote Session 4** **Room:** Prof. Abo-Ismail Theater **Chairs:** Prof. Elsayed Elrabie, Menoufia University, Egypt, and Prof. Abdel-Aziz Ibrahim, Menoufia University, Egypt. **Keynote #4: Atef Z. Elsherbeni, IEEE Fellow, ACES Fellow, Colorado School of Mines, USA** **"Computational Electromagnetics using The Finite Difference Time Domain Method with Emphasis on Antenna Designs and their Interaction with Human Body"**

Times	Technical Session #1 Selected Topics in Internet of Things Room: 201	Technical Session #2 Selected Topics in Microwave and Antennas Room: 204	Technical Session #3 Selected Topics in Circuits and Systems Room: 210	Technical Session #4 Selected Topics in Communications Room: 203
15:45 – 17:15				

Times	Activity\Session
17:15 – 18:15	**UG Ceremony**

Day 2: Tuesday, December 20, 2022

Times	Activity\Session
08:30– 09:00	**Registration and Reception**
09:00 – 09:45	**Keynote Session 5** **Room:** Prof. Abo-Ismail Theater **Chairs:** Prof. Adel B. Abdelrahman, E-JUST, Egypt, and Prof. Abdelhamid Shaalan, Zagazig University, Egypt **Keynote #5: Dr. Adel Barakat, Kyushu University, Japan** **"Stacked Metamaterial Based Wireless Power Transfer System for Biomedical Implant Applications"**
09:45 – 10:30	**Keynote Session 6** **Room:** Prof. Abo-Ismail Theater **Chairs:** Prof. Maha Elsabrouty, E-JUST, Egypt, and Dr. Ahmed Abd El-Malek, E-JUST, Egypt **Keynote #6: Prof. Mohamed-Slim Alouini, IEEE Fellow, KAUST, Saudi Arabia** **"What Should 6G Be ?"**
10:30 – 11:00	**Coffee Break**
11:00 – 11:45	**Keynote Session 7** **Room:** Prof. Abo-Ismail Theater **Chairs:** Prof. Ahmed Abdelmoniem, E-JUST, Egypt, and Prof. Sabah M. Ahmed, E-JUST, Egypt, Egypt **Keynote #7: Kazuhiko Matsumoto, Osaka University, Japan** **"Functionalization of Graphene for Bio-Electronic Sensor Application"**
11:45 – 12:30	**Keynote Session 8** **Room:** Prof. Abo-Ismail Theater **Chairs:** Prof. Hossam Shalaby, E-JUST, Egypt, and Prof. Sherif Kishk, Mansoura University, Egypt **Keynote #8: Prof. Kenshi Hayashi, Kyushu University, Japan** **"Visualization of Odor with Hyperspectral Imaging of 2D Plasmonic Device"**
12:30 – 13:00	**Invited Session 2** **Room:** Prof. Abo-Ismail Theater **Chairs:** Prof. Sherif Kishk, Mansoura University, Egypt, and Prof. Said Abd ElAty, Menoufia University, Egypt **Invited Speaker #2: Dr. Hussein Eissa, NTRA, Egypt** **"Metaverse and its impact on 5G Communications and Economic Crisis"**
13:00 – 13:30	**Invited Session 3** **Room:** Prof. Abo-Ismail Theater **Chairs:** Dr. Ahmed Allam, EJUST, Egypt, and Dr. Bassem Mokhtar, E-JUST, Egypt. **Invited Speaker #3: Eng. Wael Sayed, Chef Expert, NTRA, Egypt** **"WiFi 6E Regulatory Overview"**
13:30 – 14:30	**Lunch Break**
14:30 – 16:00	**Technical Session #5** **Selected Topics in Communications** **Room: 201** **Technical Session #6** **Selected Topics in Biomedical Engineering and Applications** **Room: 204** **Technical Session #7** **Selected Topics in Artificial Intelligence** **Room: 210**
16:00 – 16:15	**Coffee Break**
16:15 – 17:45	**Technical Session #8** **Selected Topics in Internet of Things** **Room: 201** **Technical Session #09** **Selected Topics in Microwave and Antennas** **Room: 204** **Technical Session #10** **Selected Topics in Circuits and Systems** **Room: 210** **Technical Session #11** **Selected Topics in Big Data and AI** **Room: 203**

Next Generation Wireless Networks in Smart Cities Workshop

Day 2: Tuesday, December 20, 2022

Times	Activity\Session
11:30 – 12:00	**Registration and Reception**
12:00 –13:30	**Next Generation Wireless Networks in Smart Cities Workshop** **Session # W1** **Practical Session** **Chairs:** Prof. Mohammed Abo-Zahhad, E-JUST **Room:** E-JUST Main Campus Building 7 Room 05 **Invited Speaker #1:** Eng. Ramy Elamrawy, E-JUST, Egypt **"Hands-on Next Generation Wireless Networks in Smart Cities Laboratory Equipment"**
13:30 – 14:30	**Lunch Break**
14:30 – 15:15	**Next Generation Wireless Networks in Smart Cities Workshop** **Session # W2** Chairs: Prof. Ahmed M. Attiya, Electronics Research Institute, Egypt **Room:** Prof. Abo-Ismail Theater **Invited Speaker #2:** Prof. Fumiyuki Adachi, Tohoku University, Japan **"Joint Transmit-Receive Diversity to Make Wireless Communications Reliable"**
15:15 – 16:00	**Next Generation Wireless Networks in Smart Cities Workshop** **Session # W3** Chairs: Prof. Maha Elsabrouty, E-JUST, Egypt **Room:** Prof. Abo-Ismail Theater **Invited Speaker #3:** Prof. Osamu Muta, Kyushu University, Japan **"Experimental Analysis of CSI-based Indoor Localization Toward Joint Communications and Sensing"**
16:00 – 16:15	**Coffee Break**
16:15 - 17:00	**Next Generation Wireless Networks in Smart Cities Workshop** **Session # W4** Chairs: Prof. Mohammed Abo-Zahhad, E-JUST, Egypt **Room:** Prof. Abo-Ismail Theater **Invited Speaker #4:** Prof. Osama Elnahas Helaly, Assiut University, Egypt **"Millimeter-Wave Massive MIMO for Next Generation Cellular Networks: Challenges and Design Solutions"**
17:00 – 17:45	**Next Generation Wireless Networks in Smart Cities Workshop** **Session # W5** Chairs: Prof. Adel Bedair, E-JUST, Egypt **Room:** Prof. Abo-Ismail Theater **Invited Speaker #5:** Anwer Sayed Abd El-Hameed, Electronics Research Institute, Egypt **"mm-wave Antennas and Components: Facts and Fictions You Should Definitely Know"**

TECHNICAL SESSION 1

Day 1, December 19, 2022 Time: 15:45-17:15
Selected Topics in Internet of Things,   Room: 201

Chair: Prof. Mohiy M. Hadhoud, Menoufia University, Egypt, and Dr. Rami Zewail, E-JUST, Egypt

Order	Paper No.	Authors	Paper Title
1	9	Dina Tarik and Tawfik Ismail	Integrating Smart Contracts with WDNs Framework for Energy Management and Secure Transactions
2	10	Nourhan El.Alashkar and Tawfik Ismail	Developing Smart Control Platoon Algorithm for Secure VANET Environment
3	13	Sherief Hashima, Kohei Hatano and Ehab Mahmoud Mohamed	Comparison of Energy Aware and Cost Subsidy Multi Armed Bandit Solutions for Supreme Channel Election in Hybrid Band Systems
4	50	Perry Chimenge Longwani, Israel Mendonça and Masayoshi Aritsugi	A Lightweight Cryptographic Algorithm with a Multi-Purpose Encipher Key for IoT
5	38	Elisha Elikem Kofi Senoo, Ebenezer Akansah, Israel Mendonca dos Santos and Masayoshi Aritsugi	Implementing SOLID principles for IoT Arduino sensor code

TECHNICAL SESSION 2

Day 1, December 19, 2022 Time: 15:45-17:15
Selected Topics in Microwave and Antennas,   Room: 204

Chair: Prof. Abdelhamid Shaalan, Zagazig University, Egypt, Prof. Abd El Aziz Ibrahim, Menoufia University Egypt, and Dr. Anwer S. Abd El-Hameed, Electronics Research Institute, Egypt

Order	Paper No.	Authors	Paper Title
1	8	Masaaki Fujii	Dedicated Energy Beamforming in Distributed Antenna Systems Using Antenna-Group Common Reference Signals
2	11	Tarek Sallam and Abdel Rahman Sallam	On the Radar Absorbing Material Reflectivity and Electromagnetic Interference Shielding Effectiveness
3	17	Hany Atallah, Rasha Hussein and Adel Abdelrahman	Design of a Triple Band Wireless Power Transfer (TB-WPT) system for Multiple Applications
4	27	Lin Chang Yang, Lu Yi Shun and Lin Wen Piao	Design of Beamforming Phased Array Antenna for 5G Communication
5	32	Hany Atallah, Rasha Hussein and Adel Abdelrahman	Design and Anylasis of Capacitively Loaded two Ω Shaped DGS Resonators for Dual Band Wireless Power Transfer (DB-WPT) Systems

TECHNICAL SESSION 3

Day 1, December 19, 2021 Time: 15:45-17:15
Selected Topics in Circuits and Systems,   Room: 210
Chair: Prof. Mohamed Elsaid Nasr, Tanta University, Egypt, Prof. Fathi Farag, Zagazig University, Egypt, and Dr. Ahmed Shalaby, Benha University, Egypt

Order	Paper No.	Authors	Paper Title
1	6	Hussein Abdeltawab	Optimal Stochastic Dispatch of Combined Heat Power System with Guaranteed Heat Trading
2	25	Ziad Ibrahim and Yasmine Fahmy	FPGA IMPLEMENTATION OF RECURRENT NEURAL NETWORK-BASED POLAR DECODER
3	39	Rana Elsaadany, Islam Nashaat and Mohamed Dessouky	Automatic Analog and Mixed-Signal Physical Design Review
4	49	Abdelrahman Habib, Mohamed Dessouky and Ahmed Naguib	A Pulse-Train Time Amplifier used for Time-based Phase detectors in ADPLLs
5	79	Mohammed Essam, Ahmed Shalaby and Mohamed Taher	Design and Implementation of Low Power Posit Arithmetic Unit for Efficient Hardware Accelerators

TECHNICAL SESSION 4

Day 1, December 19, 2022   Time: 15:45-17:15
Selected Topics in Communications,   Room: 203
Chair: Prof. Atef E. Abouelazm, Menoufia University, Egypt, and Prof. Maha Elsabrouty, E-JUST, Egypt

Order	Paper No.	Authors	Paper Title
1	24	Mariam Abdelrahman, Ahmed Nasser, Ahmed Magdy and Maha Elsabrouty	Multi-Armed Bandit based Capacity Enhancement Approach for Reconfigurable Intelligent Surface Assisted Multi-cell System.
2	34	Camellia S. Mouhammad, Mohamed A. El-Shimy, Hossam M. H. Shalaby and Hassan Nadir Kheirallah	Proposal of a Pre-equalizer with Nyquist Filtering to Mitigate LED Nonlinearity in PAM-4 VLC Systems
3	37	Nehal Hamden, Ahmed Nasser, Mohamed Y.Selim and Maha Elsabrouty	Reinforcement Learning Based Technique for Interference Management in UAV Aided HetNets
4	43	Haitham Khallaf, Ehab Mohamed and Kazutoshi Kato	Outage Performance of Inter-UAVs THz-Link under Composite Fading Channels
5	53	Mohamed Tharwat Waheed, Ahmed Khattab, and Yasmine Fahmy	Highly Accurate Multi-Modal LTE Channel Prediction via Semantic Segmentation of Satellite Images

TECHNICAL SESSION 5

Day 2, December 20, 2022 Time: 14:30-16:00

Selected Topics in Communications,   Room: 201

Chair: Prof. Moawad I. Dessouky, Menoufia University, Egypt, Dr. Bassem Mokhtar, E-JUST, Egypt, and Dr. Ahmed H. Abd El-Malek, E-JUST, Egypt

Order	Paper No.	Authors	Paper Title
1	54	Donia Mohamed, Osama Elgandour, Ahmed Magdy and Ahmed Nasser	Data-Driven Based Algorithm for Joint HetNets Power Allocation and NOMA User Pairing
2	63	Mohamed G. Abd El Ghafour, Ahmed H. Abd El-Malek, Ola E. Hassan and Mohammed Abo-Zahhad	Secrecy Outage Probability of Full-Duplex Relaying Vehicular Networks
3	68	Mohamed Nomeir and Bassem Mokhtar	Towards a Comprehensive Model for the Study of Computer Networks Performance using Information Theory
4	80	Hao-Tse Chiu, Shuhei Saito, Keita Kuriyama, Kentaro Tanaka, Hitoshi Hasegawa, Toshifumi Miyagi, Takeshi Onizawa and Fumiaki Maehara	Performance Comparisons of Faster-than-Nyquist Signaling Considering Fixed Utilized Bandwidth
5	82	Boniface Uwizeyimana, Ahmed Abd El-Malek, Osamu Muta, Mohammed Abo-Zahhad and Maha Elsabrouty	Multi-Armed Bandit and Repeated Auction Approaches for User Admission and Channel Allocation in 5G HetNets

TECHNICAL SESSION 6

Day 2, December 20, 2022 Time: 14:30-16:00

Selected Topics in Biomedical Eng. & App.,   Room: 204

Chair: Prof. Hossam el-din Moustafa, Mansoura University, Egypt, and Dr. Moataz Abdelwahab, E-JUST, Egypt

Order	Paper No.	Authors	Paper Title
1	26	Mohamed Fawzy, Ahmed Hussien and Hassan Mostafa	FPGA Utilized Implementation of Epileptic Seizure Detection System Based on Wearable Devices using Dynamic Partial Reconfiguration
2	35	Sherif H.Elgohary, Zeyad Ayman, Omar Ayman, Ahmed Osama, Ahmed Elmahdy and Mostafa Ibraheem	A Machine Learning Method to Screen Anemia from Conjunctiva Images Taken by Smartphone.
3	36	Neven Saleh, Omar Ezzat and Aya Ali	Face Recognition-Based Smart Glass for Alzheimer's Patients
4	51	Hazem Magdy, Alhaytham Aref, Ahmed Kamal and Mohamed Essam Khalifa	Stability and Hopf Bifurcation Analysis of a Tumor Immune Model of virus infection with Time-delay
5	77	Mohammed M. Abo-Zahhad and Ashraf Mohamed Ali Hassan	Classification of ECG Signals for Detecting Coronary Heart Diseases Using Deep Transfer Learning Techniques

TECHNICAL SESSION 7

Day 2, December 20, 2022 Time: 14:30-16:00
Selected Topics in Artificial Intelligence,   Room: 210
Chair: Prof. Ayman El Sayed, Menoufia University, Egypt, Prof. Amin Shoukry, E-JUST, Egypt,
and Dr. Samir Elsagheer, E-JUST, Egypt

Order	Paper No.	Authors	Paper Title
1	23	Mohammed Mahmoud	Arabic handwritten digit classification without gradients: Pseudoinverse Learners
2	28	Mohamed Osman, Mohamed Kamel, Fatma Mohammed and Tarek Hussein	SkinFormer: Robust Vision Transformer for Automatic Skin Disease Identification
3	41	Mohamed Khamis, Ahmed El-Mahdy, Kholoud Shata and Walid Gomaa	Fast Fourier Transform based Method for Accident Detection
4	42	Norhan Amer, Ahmed El-Mahdy, Mohamed Khamis, Walid Gomaa and Amin Shoukry	On-Edge Driving Maneuvers Detection in Challenging Environments from Smartphone Sensors
5	85	Emad A. Elsheikh	An Efficient Classification Process using Supervised Deep Learning and Robot Positioning based on Embedded PD-FLC

TECHNICAL SESSION 8

Day 2, December 20, 2022 Time: 16:15-17:45
Selected Topics in Internet of Things,   Room: 201
Chair: Prof. Sherif Kishk, Mansoura University, Egypt, Prof. Sobhy Abdelkader, E-JUST, Egypt,
and Rami Zewail, E-JUST, Egypt

Order	Paper No.	Authors	Paper Title
1	19	Tokka Nada, Heba Abdel-Atty, Walid Raslan and Atef Ghouniem	Proposed HCDNA for Enhancing the Security of Marine Environment IoT Systems
2	76	Mohammed Abo-Zahhad, Mohammed S. Sayed, Ahmed H. Abd El-Malek, Mayar Hossam, Nora Atef and Sarah Reda	Intelligent IoT-Based Tracking System for Constant Supervision of Health Status and Daily Activities of Children
3	83	Mohammed M. Abo-Zahhad	A Methodology for the Design of IoT-Based Intelligent Vehicular Management Systems in Smart Cities
4	33	Mohamed Farag, Amr Hilal and Samy El-Tawab	Parking Occupancy Prediction and Traffic Assignment in a University Environment
5	67	Kibitok Abraham, Moataz Abdelwahab and Mohammed Abo-Zahhad	Image Classification of Natural Disasters Using Different Deep Learning Models

TECHNICAL SESSION 9

Day 2, December 20, 2022 Time: 16:15-17:45

Selected Topics in Microwave and Antenna, Room: 204

Chair: Prof. Abdelhamid Shaalan, Zagazig University, and Dr. Ahmed Allam, E-JUST, Egypt

Order	Paper No.	Authors	Paper Title
1	44	Tanemasa Asano, Ahmed Allam, Osamu Muta, Haruichi Kanaya and Adel B. Abdel-Rahman	Investigation on Microwave Heating Characteristic of Watery Object Buried in Soil
2	55	Hussein Ssali, Ming Che and Kazutoshi Kato	Performance Analysis of a Wilkinson Power Combiner-Fed Patch Antenna for 300-GHz Arrayed Photomixers
3	66	Kyrillos Youssef, Mohammed Abo-Zahhad and Ahmed Abd El-Malek	Enhancement of Multifocal Breast Cancer Treatment using Multibeam Metasurface Antenna-based Hyperthermia
4	73	Hala M. Marzouk, Anwer S. Abd El-Hameed, Ahmed Allam and Adel B. Abdel-Rahman	Design of Non-Invasive Glucose Measurement Sensor
5	84	Jean Maurice Mwizerwa, Ahmed Allam, Asano Tanemasa and Adel B.Abdel-Rahman	Improving the Coupling Efficiency of the WPT System and Miniaturized Implantable Resonator using Circle Shaped Defected Ground Structure

TECHNICAL SESSION 10

Day 2, December 20, 2022   Time: 16:15-17:45

Selected Topics in Circuits and Systems, Room: 210

Chair: Prof. Mohamed Elsaid Nasr, Tanta University, Prof. Mohammed Sayed, E-JUST, Egypt, and Dr. Omar Abdel-Rahim, E-JUST, Egypt

Order	Paper No.	Authors	Paper Title
1	52	Tamer S. Mostafa, Shaimaa A. Kroush and Elsayed M. Elrabaie	Simultaneous Operation of Photonic Crystal OR-XOR-NOT Gates with Minimum Size and High Bit Rate Ring Resonator-Interference Based Structure
2	56	Umme Hani Irin, Sajib Barua, Md Minhajul Azmir, Tasnuva Hassan and Dewan Mohammed Rashid	Process Variation's Effect on various threshold Voltage assignments in 6T SRAMs and their corresponding Layout Designs in 12nm FinFET Technology
3	59	Omar Abdel-Rahim, Adel Bedair, Dmitri Vinnikov, Andrii Chub and Andrei Blinov	Partial Power Converter Based on Isolated Wide Input Range DC-DC Converter for Residential PV Applications
4	62	Mohammed Adel, Usama Sayed and Khalil Yousef	A 0.65V, Ultra Low-Power CMOS Ultra-Wideband Low Noise Amplifier using Forward Body-Biasing for Biomedical Applications
5	45	Mostafa Khamis and Ahmed Magdy	A CAD Tool of Adaptive Coverage Exclusions for Complex Industrial HDL Designs

TECHNICAL SESSION 11

Day 2, December 20, 2022   Time: 16:15-17:45
Selected Topics in Big Data and AI,   **Room: 203**
Chair: Prof. Ahmed El-Mahdy, E-JUST, Egypt, and Prof. Walid Gomaa, E-JUST, Egypt

Order	Paper No.	Authors	Paper Title
1	21	Amr Morad, Mohamed Abougabal and Ayman Khalafallah	A Privacy-Preserving Model for Big Data
2	71	Mohamed Ahmed Fouly, Taysir Hassan Soliman and Ahmed Ibrahim Taloba	Developing an Efficient Secure Query Processing Algorithm for Unstructured Data on Encrypted Databases
3	72	Ahmed Abd Elrahman, Ahmed Ibrahim, Mohammed Fawzy and Taysir Hassan	Identifying Difficult exercises in an eTextbook Using Item Response Theory and Logged Data Analysis
4	88	Ahmed M. Anter, Samir A. Elsagheer, and Ahmed B. Zaky	A robust Segmentation Model-based Fuzzy Swarm Intelligence and Logistic Chaotic Map for Hepatic CT Focal Lesion Segmentation

Zoom Links:

Contact Persons

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