



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## ASP 1 (*Antenna Systems, Propagation, Microwaves, RF Design and High Power EM*)

Session time Wednesday, 09:00 until 10:30

Location Room 1

### ***09:00: A Compact Petal Shaped Two-Port MIMO Antenna with Quad-Band for Millimeter Wave 5G Applications***

Parveez Shariff (Manipal Academy of Higher Education, India); Tanweer Ali (Manipal Institute of Technology, Manipal Academy of Higher Education, India); Pallavi R Mane (Manipal Institute of Technology & Manipal University, India); Pradeep Kumar (University of Kwazulu-Natal, South Africa); Praveen Kumar (Manipal Institute of Technology & Manipal Academy of Higher Education Manipal India, India)

### ***09:12: Characteristic Mode Analysis Based Flower Shape High Gain THz Antenna for Imaging and Defense Applications***

Praveen Kumar (Manipal Institute of Technology & Manipal Academy of Higher Education Manipal India, India); Atharv Parag Dongare (Manipal Institute of Technology Manipal, India); Tanweer Ali (Manipal Institute of Technology, Manipal Academy of Higher Education, India); Sameena Pathan (Manipal Institute of Technology Manipal, India); Parveez Shariff (Manipal Academy of Higher Education, India); Om Prakash Kumar (Manipal Institute of Technology, Manipal Academy of Higher Education, India)

### ***09:25: A Sequence of Circular Slotted Nonagon Shape Extended Ultrawideband Antenna for Smart Electronic Systems Using Characteristic Mode Analysis***

Subhash B k (REVA University, India); Praveen Kumar (Manipal Institute of Technology & Manipal Academy of Higher Education Manipal India, India); Sameena Pathan (Manipal Institute of Technology Manipal, India); Tanweer Ali (Manipal Institute of Technology, Manipal Academy of Higher Education, India); Rajashekhar Biradar (Reva University, India)

### ***09:38: Gain Enhancement of a Miniaturized Broadband Patch Antenna Using a Metamaterial Superstrate for Surveillance Applications in Aircraft***

M Pallavi (Manipal Institute of Technology, India); Pramod Kumar (Manipal Institute of Technology & Manipal University, India); Tanweer Ali (Manipal Institute of Technology, Manipal Academy of Higher Education, India); B Satish Shenoy (MAHE, India)

### ***09:51: Characteristics Mode Analysis Based Dual-Port Sub-6 GHz Flexible Antenna for Surveillance Applications***

Deepthi Mariam John (Manipal Institute of Technology, India); Tanweer Ali (Manipal Institute of Technology, Manipal Academy of Higher Education, India); Shweta Vincent (Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, Karnataka, India); Sameena Pathan (Manipal Institute of Technology Manipal, India); Praveen Kumar (Manipal Institute of Technology & Manipal Academy of Higher Education Manipal India, India); Parveez Shariff (Manipal Academy of Higher Education, India)

### ***10:04: A Conformal Wideband Antenna for Wearable Applications at Sub-6 GHz: Characteristic Mode Analysis***

Deepthi Mariam John (Manipal Institute of Technology, India); Tanweer Ali (Manipal Institute of Technology, Manipal Academy of Higher Education, India); Shweta Vincent (Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, Karnataka, India); Sameena Pathan (Manipal Institute of Technology Manipal, India); Praveen Kumar (Manipal Institute of Technology & Manipal Academy of Higher Education Manipal India, India)

### ***10:17: A Thermostable Frequency Selective Surface with Both a Low-Pass and a Wide Shielding Band***

Lei Tang (Nanjing University of Aeronautics and Astronautics, China); Jiahui Huang (Nanjing University of Aeronautics and Astronautics, China); Yi Wang (Nanjing University of Aeronautics and Astronautics, China); Yanan Liu (Jinling Institute of Technology, China); Qunsheng Cao (Nanjing



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## ASP 2 (*Antenna Systems, Propagation, Microwaves, RF Design and High Power EM*)

Session time Wednesday, 09:00 until 10:30

Location Room 2

### ***09:00: Enhancing the Performance of Thin Film Photovoltaic Solar Cells Using Truncated Conical Nanoparticles***

Mohamed Magdy Gad (Nile University Nanoelectronics Integrated Systems Center, Egypt); Mai Sallam (Nile University, Egypt); Ezzeldin Soliman (The American University in Cairo, Egypt); Yasser M. El Batawy (Nile University, Egypt)

### ***09:12: Effect of Magnetite Powder Implementation on Electromagnetic Shielding Characteristics of Electromagnetic Shelters***

Mohamed Wagih Atwa (Military Technical College, Egypt); Ismail Mohamed Kamal (Military Technical College, Egypt); Ahmed Esmat Soltan (Military Technical College, Egypt); Mohamed Ali El-Sayed Mahmoud Ali (Military Technical College, Egypt)

### ***09:25: Investigation of Triple Frequency Bands Using Nano-Graphene Patch Enclosed with Copper Frame Antenna Based on (SPPs) for J-Band Applications***

Ahmed Fathy Miligy (ADC, Egypt); Assem H. Elfeky (Alexandria, Egypt); Ahmed Khairy (Air Defense College, Egypt); Shady Hossny Elgohary (Air Defense College, Egypt)

### ***09:38: Analysis and Implementation of Single Feed Dual-Band Compact Slotted Antenna at 28/38 GHz for 5G Applications***

Ahmed Fathy Miligy (ADC, Egypt); Assem H. Elfeky (Alexandria, Egypt); Ahmed S.I Amar (Honorary Research Fellow of Radio Frequency Engineering, University of Bradford, United Kingdom, Egypt); Naser Ojaroudi Parchin (Edinburgh Napier University, United Kingdom, United Kingdom (Great Britain)); Osama Dardeer (Electronics Research Institute, Egypt)

### ***09:51: Super-Wide Band Antenna on Three-Layer Substrate for Microwave and Millimeter-Wave Applications***

Asmaa E. Farahat (Electronics Research Institute, Egypt); Eman Gamal Ouf (Electronics Research Institute, Egypt); Khalid F. A. Hussein (Electronics Research Institute, Egypt); Shaimaa Ali Mohassieb (Akhbar Elyom Academy, Egypt)

### ***10:04: Low-Profile Monopole Antenna Design with Dual Notch Bands and Ultra-Wide Impedance Bandwidth***

Mahmoud Fathi Ghareeb (The Egyptian Technical Research and Development Centre, Egypt); Ahmed S.I Amar (Honorary Research Fellow of Radio Frequency Engineering, University of Bradford, United Kingdom, Egypt); Naser Ojaroudi Parchin (Edinburgh Napier University, United Kingdom, United Kingdom (Great Britain)); Raed A Abd-Alhameed (University of Bradford, United Kingdom (Great Britain)); Mohammad Alibakhshikenari (Universidad Carlos III de Madrid, Spain)

### ***10:17: Metasurface-Inspired UWB Antenna Design for Wireless Power Transfer Systems***

Shady Hossny Elgohary (Air Defense College, Egypt); Ahmed S.I Amar (Honorary Research Fellow of Radio Frequency Engineering, University of Bradford, United Kingdom, Egypt); Naser Ojaroudi Parchin (Edinburgh Napier University, United Kingdom, United Kingdom (Great Britain)); Haleh Jahanbakhsh Basherlou (Edinburgh Napier University, United Kingdom (Great Britain))



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## CMA 1 (*Communication Software, Machine Learning and AI for Communications*)

Session time Wednesday, 09:00 until 10:30

Location Room 3

### ***09:00: Using Deep Learning to Translate Algerian Sign Language to Spoken and Written Words***

Abderrazak Benarous (Amar Telidji University, Algeria); Leila Benarous (University of Amar Telidji, Laghouat, Algeria); Salim Bitam (University of Biskra & LESIA Laboratory, Algeria); Abdelhamid Mellouk (UPEC, University Paris-Est Creteil Val de Marne, France)

### ***09:15: Leveraging Deep Learning and IoT Big Data Analytics for the Determination of Development Priorities Utilizing GeoAI in the National Project for the Development of the Egyptian Rural Villages***

Eman Taha Nassar (Ministry Of Housing & Housing, Egypt); Hassan Elgazouly (Professor of Geomatics, Egypt); Ali Elnaggar (Professor of Geomatics, Egypt); Samy Ayyad (Associate Professor of Geomatics, Egypt)

### ***09:30: An Optimized Radar Sensors Schedule Using Genetic Algorithms***

Mohamed Shalaby (Air Defense Research and Development Center & Arab Academy for Science Technology, Egypt); Alaa Hafez (Alexandria University, Egypt); Mohamed Hussein Emam Mabrouk (University of Ottawa, Canada)

### ***09:45: AI-EgyVent: Artificial Neural Network Assisted Control Based Low-Cost Ventilator Implementation in Response to COVID-19 Pandemic***

Abdelrhman Mohamed Abotaleb (Cairo University, Egypt & McMaster University, Canada); Ahmed Abdellatif Elsaber (Cairo University & Military Technical College, Egypt); Mohammed Taha Saber (Cairo University & Military Technical College, Egypt); Mohamed Riad El Ghoneimy (Cairo University, Canada)

### ***10:00: Breast Cancer Classification Using Various CNN Models***

Mariam Askar (Alexandria University, Egypt); Amgad Salama (Alexandria University, Egypt); Hassan El Kamchouchi (Alexandria University, Egypt); Adel Alfahar (Alexandria University, Egypt)

### ***10:15: Room-Level Activity Classification from Contextual Electricity Usage Data in a Residential Home***

Muhammad Farooq (University of Glasgow, United Kingdom (Great Britain)); Mahmoud Ahmed Shawky (University of Glasgow, United Kingdom (Great Britain)); Aisha Fatima (PGR, United Kingdom (Great Britain)); Ahsen Tahir (University of Glasgow, United Kingdom (Great Britain)); Muhammad Zakir Khan (University of Glasgow, United Kingdom (Great Britain)); Hasan Abbas (University of Glasgow, United Kingdom (Great Britain)); Muhammad Ali Imran (University of Glasgow, United Kingdom (Great Britain)); Qammer H Abbasi (University of Glasgow, United Kingdom (Great Britain)); Ahmad Taha (University of Glasgow, United Kingdom (Great Britain))



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## CT 1 (*Communication Technologies*)

Session time Wednesday, 09:00 until 10:30

Location Room 4

### **09:00: *Recent Advances Towards Securing Smart Grids with Blockchain***

Ali Yassine (The American University in Cairo, Egypt); Mohamed Baza (College of Charleston, USA); Sherif Abdelfattah (Bradley University, USA); Mahmoud M Badr (SUNY Poly, USA); Amar A Rasheed (Sam Houston State University, USA); Ramy Amer (Trinity College Dublin, Ireland)

### **09:15: *Performance Analysis of SAC-OCDMA Using EDW Codes in FSO Transmission Under Rainy Weather***

Somia A. Abd El-Mottaleb (Alexandria Higher Institute of Engineering and Technology, Egypt); Mehtab Singh (Chandigarh University, India)

### **09:30: *Particle Swarm Optimization of Machine Learning in Cognitive Radio e-Health Networks at Low SNR***

Israa Mohamed Abdul Aziz (Cairo University & Al Azhar University, Egypt); Ahmed Khattab (Cairo University, Egypt)

### **09:45: *Analytical Performance of Additional Active States on Power Saving and Average Delay During Hybrid-Directional DRX Technique***

Mostafa Mohamed Sallam (Mansoura University, Egypt); Fayez W. Zaki (Mansoura University, Egypt); Hala Bahy El-Deen Nafea (Mansoura University, Egypt)

### **10:00: *A Survey of the Most Common Task Scheduling Algorithms***

Menna Medhat Abdelrehim (FCI, Egypt); Eman Hossny (Faculty of Computers and Artificial Intelligence, Cairo University, Egypt); Fatma Omara, H. (Faculty of Computers and Information, Cairo University & 5 Ahmed Zewal Streei, Dokki, Giza, Egypt)

### **10:15: *Wireless Technology Identification Employing Dynamic Mode Decomposition Spectrum***

Ahmed Elsebaay (The University of Oklahoma, USA); Hazem Refai (Oklahoma University, USA)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## GCP 1 (*Green Communication and Power Management and Control*)

Session time Wednesday, 09:00 until 10:30

Location Room 5

### ***09:00: Human Footsteps-Based Energy Harvesting Using Piezoelectric Elements***

Kyrillos Khalf Selim (Helwan University, Egypt); Hossam Yehia (Helwan University, Egypt); Samia Abdalfatah (Helwan University, Egypt)

### ***09:15: Evaluating Potential Security Risks of Advanced Metering Infrastructure Using EBIOS Risk Assessment Method***

Mostafa Shokry (Ministry of Electricity and Renewable Energy, Egypt); Ali Ismail Awad (United Arab Emirates University, United Arab Emirates & University of Plymouth, United Kingdom (Great Britain)); Mahmoud Khaled Abd-Allah (Egyptian Russian University, Egypt); Ashraf A. M. Khalaf (Minia University, Faculty of Engineering, Egypt)

### ***09:30: Green Computing and Security Practices for Optimizing Crawler Efficiency***

Mai Ramadan Ibraheem (University of Kafrelsheikh, Egypt)

### ***09:45: Investigation of Green Hydrogen Production and Storage from PV Arrays Connected to an AC Microgrid System***

Mona Bayoumi (Benha & Faculty Engineering, Egypt); El Sayed El Tantawy (Banha-University, Egypt); Mohamed Gomaa AbdAllah Attia (Helwan University, Egypt); Ahmed M. Atallah (Ain Shams University, Egypt); Dina Mourad Hafez (Helwan University, Egypt)

### ***10:00: Performance Analysis and Validation of Different Meshing Element Size Used for Computational Fluid Dynamics Simulation***

Mohamed Mahran Ahmed (University of Cairo, Egypt); Shady Zahran (Technical Researches and Development, Canada); Ahmed AL-sayed Albna (University of Cairo, Egypt); Salah Tawfeq Shahen (University of Cairo, Egypt)

### ***10:15: Implementing Foot Tiles in Crowded Areas with the Use of Piezoelectric Material***

Sameh Osama (Lecturer, BUE, Egypt); Ahmed Ahmed (The British university in Egypt, Egypt); Ahmed Hassan (The British University in Egypt, Egypt); Ahmed Khalid (The British University in Egypt, Egypt); Shagird O Jetun (University of Lincoln, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## RSP 1 (*Radar and Space Systems, Positioning, Navigation, and Sensing*)

Session time Wednesday, 09:00 until 10:30

Location Room 6

### **09:00: A Novel Analysis Method for the Contents of Pharmaceutical Ingredients Using near Infrared Spectroscopy**

Huiwen Zhang (Nanjing University of Aeronautics and Astronautics, China); Caiyun Wang (Nanjing University of Aeronautics & Astronautics, China)

### **09:12: Infrared Multi-Sensor Fusion Target Recognition Based on ISVM-DS**

Caiyun Wang (Nanjing University of Aeronautics & Astronautics, China); Yida Wu (Nanjing University of Aeronautics and Astronautics, China); Jianing Wang (Beijing Institute of Electronic System Engineering, China); Xiaofei Li (Beijing Institute of Electronic System Engineering, China)

### **09:25: A New Image Classification Using RI-LBP with Fast-ICA**

Yida Wu (Nanjing University of Aeronautics and Astronautics, China); Caiyun Wang (Nanjing University of Aeronautics & Astronautics, China); Jianing Wang (Beijing Institute of Electronic System Engineering, China); Longfan Deng (Beijing Institute of Electronic System Engineering, China)

### **09:38: Three-Dimensional Mapping and Change Detection Analysis Using Aerial Images for Unmanned Aerial Vehicles**

Essam Hassan Hamza (Egyptian Air Force, Egypt); Hany Abdel maksoud Abdel maksoud, ENG (National Water Research Center (NWRC) & Surveying Research Institute, Egypt)

### **09:51: An Enhanced System on Chip-Based Sobel Edge Detector**

Ahmed S. Khalil (University of Ain Shams, Egypt); Mohamed Shalaby (Air Defense Research and Development Center & Arab Academy for Science Technology, Egypt); Emad Hegazi (Faculty of Engineering Ain-Shams University, Egypt)

### **10:04: Faster-RCNN Based Star Image Extraction Algorithm Suitable for Star Sensors Disturbed by Gaussian Noise**

Feng Wu (Changzhou Institute of Technology, China); Xifang Zhu (Changzhou Institute of Technology, China); Qingquan Xu (Changzhou Institute of Technology, China); Ruxi Xiang (Changzhou Institute of Technology, China); Cheng Wang (Suzhou University of Science and Technology, China); Jiapeng Lu (Changzhou Institute of Technology, China)

### **10:17: FPGA Implementation for Multiple CFAR Algorithms**

Mostafa Youssif Rihan (Helwan University & Air Defence Collage, Egypt); Roaa Ibrahim Mubarak (Helwan University, Egypt); Zaki B. Nassir (Helwan University, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## ASP 3 (*Antenna Systems, Propagation, Microwaves, RF Design and High Power EM*)

Session time Wednesday, 14:30 until 16:00

Location Room 1

### ***14:30: Compact Triple-Band Millimeter Wave Flexible Antenna for Wearable Applications***

Parveez Shariff (Manipal Academy of Higher Education, India); Tanweer Ali (Manipal Institute of Technology, Manipal Academy of Higher Education, India); Pallavi R Mane (Manipal Institute of Technology & Manipal University, India); Pradeep Kumar (University of Kwazulu-Natal, South Africa); Praveen Kumar (Manipal Institute of Technology & Manipal Academy of Higher Education Manipal India, India); Sameena Pathan (Manipal Institute of Technology Manipal, India)

### ***14:45: A Petal-Shaped Base Station Antenna Array with Down-Tilted Beam for 5G Wireless Communications***

Rana Tarek Allam (Pharos University in Alexandria, Egypt); Aya Magdy Rashwan, Miss (Pharous Universty, Egypt); Ghada Mohammed Allam, Miss (Pharos University, Egypt); Nourhan Ahmed Hassan (Pharos University, Egypt); Ahmed Alieldin (The Egyptian Technical Research and Development Centre, Egypt)

### ***15:00: Triple Band Reflective Metasurface Based Linear to Circular Polarization Converter***

Shaza Elnady (Electronic Research Institute, Egypt); Eman M. Eldesouki (Electronics Research Institute, Egypt); Shima A. M. Soliman (Electronics Research Institute (ERI), Canada & Queens University, Egypt); Ahmed M. Attiya (Electronics Research Institute, Egypt)

### ***15:15: Compact Dual Linear Polarized Antenna Feed for LEO Satellites Based on Quad Ridge Waveguide***

Mahmoud Gadelrab Ahmed Gadelrab (Concordia University, Canada, Canada); Shoukry Shams (Concordia University, Canada); Abdel R. Sebak (Concordia University, Canada)

### ***15:30: Design of a Wide-Band, Miniaturized Absorber for S- and C-Band Applications***

Zain UL Abidin (Nanjing University of Aeronautics and Astronautics, China); Qunsheng Cao (Nanjing University of Aeronautics and Astronautics, China); Gulab Shah (Nanjing University of Aeronautics and Astronautics, China)

### ***15:45: A Comparative FEM Approach of Nanoparticles-Mediated Thermal Therapy of Breast Cancer***

Ehab I. Mohamed (Alexandria, Egypt); Samar M. Abdel-kader (Alexandria, Egypt); Mohamed I. Badawi (Alexandria, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## CMA 2 (*Communication Software, Machine Learning and AI for Communications*)

Session time Wednesday, 14:30 until 16:00

Location Room 2

### **14:30: *Systematic Review for CAD Coronary Artery Diseases Prediction***

Ghada Abdalla Radwan Abdalla Radwan (Fayoum University & October 6 University, Egypt); Mohamed Helmy Khafagy (Fayoum University, Egypt); Mostafa Thabet (Fayoum, Egypt); Marwa Hussien Mohamed (October 6 University, Egypt)

### **14:45: *An Enhanced Pseudorandom Number Generator Based Differential Lorenz System by Using Runge-Kutta Method***

Ahmed M. Mohy El Den (Arab Academy for Science and Technology, Egypt); Karim H Moussa (Xi'an Jiaotong-Liverpool University & School of Internet of Things, China); Roshdy A AbdelRassoul (Arab Academy for Science and Technology & College of Engineering & Technology, Egypt)

### **15:00: *Neural Network-Based Classification of Hand Gestures Using Electromyography Sensor Data***

Amir R. Ali (The German University in Cairo (GUC) & PI of the Applied-Science & Robotics Laboratory for Applied-Mechatronics ARATronics Laboratory, Egypt); Mohamed Ramadan (The German University in Cairo, Egypt); Abdelrahman T. Darwish (The German University in Cairo, Egypt)

### **15:15: *Detecting Hardware Trojans Using Structural Features for Hardware Security and Reliability***

Mostafa Mohammad Helmy Sayed (Cairo University, Egypt); Mohamed Abdalla (Cairo University, Egypt); Ahmed Khattab (Cairo University, Egypt)

### **15:30: *Analysis and Design of Different Methods Used in Machine Learning for Epileptic Seizure Detection and Effective Usage of XGBoost Classifier Model***

Prasad Sarappadi Narasimha (Manipal Institute of Technology Bengaluru, India); Kavya B S (REVA University, India)

### **15:45: *Correcting Kernel-Based Network for Single-Image Haze***

Ruxi Xiang (Changzhou Institute of Technology, China); Xifang Zhu (Changzhou Institute of Technology, China); Feng Wu (Changzhou Institute of Technology, China); Qingquan Xu (Changzhou Institute of Technology, China); Longan Zhang (Changzhou Institute of Technology, China)





# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt) CT 2 (*Communication Technologies*)

Session time Wednesday, 14:30 until 16:00

Location Room 3

## ***14:30: Meandered V-Shape MIMO Antenna for Short-Range mmWave Vehicular Applications***

Mehr E Munir (Assistant Professor & Senior Researcher, Saudi Arabia); Saad Hassan Kiani (Prince Sultan University, Saudi Arabia); Mohamed Marey (Prince Sultan University, Saudi Arabia); Huseyin Serif Savci (Istanbul Medipol University, Turkey); Naser Ojaroudi Parchin (Edinburgh Napier University, United Kingdom, United Kingdom (Great Britain))

## ***14:45: Secure Communication with Novel User-Clustering and Multi-User Cooperation in PD-NOMA System***

Asif Mahmood (NUST, Pakistan); Mohamed Marey (Prince Sultan University, Saudi Arabia)

## ***15:00: Performance Analysis of VLC-Based Infrastructure-To-Vehicle Communication***

Noura H. El Shabasy (British University in Egypt, Egypt); Samy S. Soliman (Cairo University and Zewail City - U of Science and Technology, Egypt); Mohammad M Abdellatif (The British University in Egypt, Egypt)

## ***15:15: Performance Analysis of Cache- and SWIPT-Aided NOMA-Based CDRT Networks***

Alok Kumar Shukla (Indian Institute of Technology Indore, India); Jules M. Moualeu (University of the Witwatersrand, South Africa); Maurizio Magarini (Politecnico di Milano, Italy); Prabhat Kumar Upadhyay (Indian Institute of Technology Indore, India)

## ***15:30: Assessing the Efficiency of Multi-Carrier Waveforms in Next-Generation 6G Wireless Communication Systems***

Walid Raslan (Delta University for Science and Technology, Egypt); Heba M. Abdel-Atty (Port said University, Egypt); B M El-den (Delta University for Science and Technology, Egypt)

## ***15:45: Channel Coding Challenges for Short and Moderate Block Lengths-Based Applications***

Amr Tarek (Military Technical College, Egypt); Amr Abdelaziz (Military Technical College, Egypt); Hisham Al-Dahshan (Military Technical College, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## GCP 2 (*Green Communication and Power Management and Control*)

Session time Wednesday, 14:30 until 16:00

Location Room 4

### ***14:30: Origin of Capacitance in Perovskite Solar Cells: Insight Vision on the Energy Band Diagram***

Sameh Osama (Lecturer, BUE, Egypt); Monica Ramon (The British University in Egypt, Egypt); Ziad Khalifa (The British University in Egypt, Egypt)

### ***14:45: Towards the First Sustainable Building in the British University in Egypt Campus: Applied Study on the Wind Tunnel Building***

Sameh Osama (Lecturer, BUE, Egypt); Mohamed Elkasrawy (The British University in Egypt, Egypt); Hani A. Ghali (British University in Egypt (BUE), Egypt)

### ***15:00: CONV1D-GRU: A Hybrid Model for Short-Term Electrical Load Forecasting***

Karim Sayed Farid, Hassan (Egyptian Electricity Holding Company, Egypt); Sameh Salem (Helwan University, Egypt); Amr E. Mohamed (Helwan University, Egypt); Ahmed Ayman Ali (Helwan University, Egypt)

### ***15:15: An Analysis of the Influence That Rooftop Photovoltaic Systems Have on the Characteristics of Distribution Networks Using Digsilent Power Factory***

Peter Bekhet (Qdesign Company for Consultant, Egypt); Amr Magdy (Faculty of Engineering Ain Shams University, Egypt); Walid El-Khattam (Faculty of Engineering, Ain Shams University, Egypt)

### ***15:30: Evaluation of Rooftop Photovoltaic Penetration Impact on Distribution Networks Voltage Profile and the Impact of Controlling the PV Inverter Using DIGSILENT Software***

Peter Bekhet (Qdesign Company for Consultant, Egypt); Amr Magdy (Faculty of Engineering Ain Shams University, Egypt); Walid El-Khattam (Faculty of Engineering, Ain Shams University, Egypt)

### ***15:45: Survey on Modular Multilevel Converter: Definition, Principal of Operation, Classification, Challenges and Applications***

Karim Abdel Mageed (ADC, Egypt); Ahmed Adel Hieba (ADC Research Center, Egypt); Ghada Mohammed Amer, Prof (Misr University for Science and Technology & Vice Preseident - Arab Science and Technology Foundation, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## IMS 1 (IoT, M2M, Sensor Networks, and Ad-hoc Networking)

Session time Wednesday, 14:30 until 16:00

Location Room 5

### **14:30: Cloud Region Recognition from Single Images Based on YOLO**

Xifang Zhu (Changzhou Institute of Technology, China); Feng Wu (Changzhou Institute of Technology, China); Qingquan Xu (Changzhou Institute of Technology, China); Ruxi Xiang (Changzhou Institute of Technology, China); Zhaohuan Zhu (Suzhou University of Science and Technology, China); Weixin Chen (Changzhou Institute of Technology, China)

### **14:45: Enhancing Security of Vehicle-To-Everything Communication (V2X) in AUTOSAR Architecture**

Mohamed AbdelAzeem (Ain Shams University, Egypt); Mona Helmy (Siemens, Egypt)

### **15:00: Hybrid- Blowfish Security Strengths Using Side Channel Countermeasures**

Ali E. Takieldeem (Delta University for Science and Technology, Egypt); Waleed Seror, sr (University of Zagazig, Egypt); Mohamed Fouad (Zagazig University, Egypt)

### **15:15: An In-Depth Review of AI-Based Techniques for Early Diagnosis of Breast Cancer: Evaluation of CAD System Design and Classification Methodologies**

Eman A Ashraf (Lecturer Engineering, Egypt); Ahmed A. Abdullah (D U, Egypt); Warda Shaaban (Lecturer at Nile Institute, Egypt)

### **15:30: Digital Twins Approaches and Methods Review**

Mohamed Helal (4 Abdelhaliem Newera & HITS, Egypt); Manal E Helal (Hertfordshire University & University of New South Wales, United Kingdom (Great Britain)); Ali E. Takieldeem (Delta University for Science and Technology, Egypt); Samia Mohammed Abd-Alhalem (DU, Egypt); Hamed shawky Zied (Air Defense College, Egypt); Ahmed Khairy (Air Defense College, Egypt)

### **15:45: Wearable Health Monitoring and Tracking Through Whispering Gallery Mode Optical Sensors in IoT-Enabled Smartwatches**

Amir R. Ali (The German University in Cairo (GUC) & PI of the Applied-Science & Robotics Laboratory for Applied-Mechatronics ARATronics Laboratory, Egypt); Abdelkarim Saleh (German University in Cairo, Egypt); Eman A. Abdallah (GUC, Egypt); Alaa Ali (German University in Cairo, Egypt); Farida Moubarak (German University in Cairo, Egypt); Hana Elzeky (German University in Cairo, Egypt); Ibrahim EL-Sahhar (German University in Cairo, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## RSP 2 (*Radar and Space Systems, Positioning, Navigation, and Sensing*)

Session time Wednesday, 14:30 until 16:00

Location Room 6

### ***14:30: Applying Adaptive Technique to Improve Tracking Filter Performance***

Youssef Ibrahim Fayad (ADC, Egypt); Ahmed Khairy (Air Defense College, Egypt); Shady Hossny Elgohary (Air Defense College, Egypt); Shady A Deraz (Air Defense College & Electrical Engineering, Egypt)

### ***14:42: Ridge Gap Waveguide Monopulse Comparator for Millimeter Wave Direction Finding Systems***

Mohammad Ali (Concordia University, Canada); Mohamed Ali (Concordia University, Egypt); Abdel-Razik Sebak (Concordia University, Canada)

### ***14:55: Strip Line Unequal High Power Divider with 1:12 Division Ratio***

Alla Eid (Faculty of Engineering, Egypt); Ahmed Alieldin (The Egyptian Technical Research and Development Centre, Egypt); Amgad Salama (Alexandria University, Egypt); Ahmed S.I Amar (Honorary Research Fellow of Radio Frequency Engineering, University of Bradford, United Kingdom, Egypt)

### ***15:08: Investigation of Nonlinear Optical Absorption in a Triphenylamine Derivative and Its Potential Application in Ultrafast and Broadband Laser Protection***

Xingzhi Wu (Suzhou University of Science and Technology, China); Rui Ruan (Suzhou University of Science and Technology, China); XingXing Li (Suzhou University of Science and Technology, China); Yujie Zhao (Suzhou University of Science and Technology, China); Quanying Wu (Suzhou University of Science and Technology, China)

### ***15:21: An Image Restoration Method for the Sparse Aperture Optical System Based on Deep Learning***

Quanying Wu (Suzhou University of Science and Technology, China); Senmiao Wang (Suzhou University of Science and Technology, China); Junliu Fan (Suzhou University of Science and Technology, China); Baohua Chen (Suzhou University of Science and Technology, China); Xingzhi Wu (Suzhou University of Science and Technology, China)

### ***15:34: Enhanced Radar Performance Using Optimized Hybrid Signal Based on Nonlinear and Linear Frequency Modulation***

Mostafa Elhoshy (Air Defense College, Egypt); Ahmed Youssef (Military Technical College, Egypt)

### ***15:47: Design and Implementation of SDR Platform for Radar Applications***

Ahmed S.I Amar (Honorary Research Fellow of Radio Frequency Engineering, University of Bradford, United Kingdom, Egypt); Kamal Hussein (Ain Shams University, Egypt); Abdelhaliem Zekry (Ain Shams University & Fac. of Engineering, Egypt); Mohamed Abouelatta (Ain Shams University, Egypt); Ahmed Khairy (Air Defense College, Egypt); Mohamed Hussein Emam Mabrouk (University of Ottawa, Canada)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## ASP 4 (*Antenna Systems, Propagation, Microwaves, RF Design and High Power EM*)

Session time Wednesday, 16:15 until 17:45

Location Room 1

### **16:15: *Dual Band S-Shape mmWave Antenna Array for Future RF Devices***

Saad Hassan Kiani (Prince Sultan University, Saudi Arabia); Mehr E Munir (Assistant Professor & Senior Researcher, Saudi Arabia); Mohamed Marey (Prince Sultan University, Saudi Arabia); Naser Ojaroudi Parchin (Edinburgh Napier University, United Kingdom, United Kingdom (Great Britain))

### **16:27: *Printed RGW Cascaded 3-dB Coupler with Enhanced Performance for Millimeter Wave Applications***

Mohammad Ali (Concordia University, Canada); Mohamed Ali (Concordia University, Egypt); Abdel-Razik Sebak (Concordia University, Canada)

### **16:40: *Analysis and Design of Improved Guided Wave Structure Using Matching Network/Magnetized Material and Circular Spiral-Spiral Wraparound Metamaterial Array for X-Band Radar Applications***

Ahmed Fathy Miligy (ADC, Egypt)

### **16:53: *New Approach to Analyze Solid Fuel Exhaust for Rocket Engine Based on Laser Spectroscopy***

Abdalmhman Adel (ASWU, Egypt); Osama A. Omer (Aswan University, Egypt); Mohamed Anwar (ASWU, Egypt); Mohamed Alamer (AIET, Egypt); Mostafa Elhoshy (UVIC, Egypt); Amir Almslmany (Air Defence College, Egypt)

### **17:06: *MIMO Slot Antenna with Polarization Diversity and Dual Notched Bands for UWB Applications***

Ahmed Gamal Abdellatif Ibrahim, Ag (Air Defense College & Alexandria University, Egypt); Naser Ojaroudi Parchin (Edinburgh Napier University, United Kingdom, United Kingdom (Great Britain)); Abdelmegid Allam (German University in Cairo, Egypt); Diaan Fawzy (Izmir University of Economics, Turkey); Alla Eid (Faculty of Engineering, Egypt); Ahmed S.I. Amar (Honorary Research Fellow of Radio Frequency Engineering, University of Bradford, United Kingdom, Egypt)

### **17:19: *A 2-Bit Quad Band Frequency Selective Surface Furnishing Multifunction Behaviour at Two Bands***

Gulab Shah (Nanjing University of Aeronautics and Astronautics, China); Qunsheng Cao (Nanjing University of Aeronautics and Astronautics, China); Amir Almslmany (Air Defence College, Egypt); Zain UL Abidin (Nanjing University of Aeronautics and Astronautics, China)

### **17:32: *Novel Design of Voltage Controlled Oscillator (VCO) Using MEMS Switch***

Ahmed Khairy (Air Defense College, Egypt); Shady Hossny Elgohary (Air Defense College, Egypt); Mohamed A. Soliman (Air Defense College & Alexandria University, Egypt); Youssef Ibrahim Fayad (ADC, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## ASP 5 (*Antenna Systems, Propagation, Microwaves, RF Design and High Power EM*)

Session time Wednesday, 16:15 until 17:45

Location Room 4

### ***16:15: Circularly Polarized Ka-Band Dielectric Reflectarray Antenna***

Mahmoud S. Abdelhady (Queen's University, Canada); Shima A. M. Soliman (Electronics Research Institute (ERI), Canada & Queens University, Egypt); Al P. Freundorfer (Queen's University, Canada); Yahia Antar (Royal Military College of Canada, Canada)

### ***16:30: A Circularly-Polarized Patch Antenna Design for 3.6 GHz Applications in 5G Systems***

Ahmed Ibrahim Salem III (Damanhur University, Egypt); Naser Ojaroudi Parchin (Edinburgh Napier University, United Kingdom, United Kingdom (Great Britain)); Mohammad Alibakhshikenari (Universidad Carlos III de Madrid, Spain); Raed A Abd-Alhameed (University of Bradford, United Kingdom (Great Britain)); Ahmed S.I Amar (Honorary Research Fellow of Radio Frequency Engineering, University of Bradford, United Kingdom, Egypt)

### ***16:45: Comparison and Analysis of RSSI Values at WLAN Bands in Obstructed Wireless Communication Path***

Muhammad Asim (University of Engineering and Technology Peshawar, Pakistan); Muhammad Altaf Hussain Khan (University of Engineering Technology Peshawar Pakistan, Pakistan); Muhammad Aatif (University of Engineering and Technology Peshawar, Pakistan); Muhammad Naseer (CECOS University of Information Technology and Emerging Science Peshawar, Pakistan)

### ***17:00: For Future Wireless Communications: Development of A Circularly Polarized Antenna with Low Profile***

Mohammed Ezzat Yassin (Akhbar Elyom Academy, Egypt); Gomaa M. Elashry (Electronics Research Institute (ERI), Egypt); Khalid F. A. Hussein (Electronics Research Institute, Egypt); Qammer Abbasi (University of Glasgow, United Kingdom (Great Britain)); Shaimaa Ali Mohassieb (Akhbar Elyom Academy, Egypt)

### ***17:15: S-Band Single-Layer Balun for Wideband Applications***

Mohammad Darwish (Military Technical College, Egypt); Mohammed Mahdi (Military Technical College, Egypt); Hossam Tork (Military Technical College, Egypt); Ayman Eltager (Military Technical Collage, Egypt)

### ***17:30: Design and Implementation of High-Power Laser Beam Profiler Optics Based on Practical Experiments***

Abdalrhman Adel (ASWU, Egypt); Osama A. Omer (Aswan University, Egypt); Ahmed El Sawi (Egypt, Egypt); Mahmoud Mohamed Talaat (Military Technical College, Egypt); Mostafa Elhoshy (Air Defense College, Egypt); Amir Almslmany (Air Defence College, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## CMA 3 (Communication Software, Machine Learning and AI for Communications)

Session time Wednesday, 16:15 until 17:45

Location Room 2

### ***16:15: Dehazing Image Quality Assessment Method Based on Color Information***

Qingquan Xu (Changzhou Institute of Technology, China); Ruxi Xiang (Changzhou Institute of Technology, China); Xifang Zhu (Changzhou Institute of Technology, China); Feng Wu (Changzhou Institute of Technology, China); Longan Zhang (Changzhou Institute of Technology, China)

### ***16:30: Optimized Performance of Attacks Detection in WSN Based on Machine Learning Algorithms***

Amr Farid (Mansoura University, Egypt); Abeer Khalil (Mansoura University, Egypt); Mahmoud Ahmed Shawky (University of Glasgow, United Kingdom (Great Britain)); Ahmed Samrah (Mansoura University, Egypt); Hegazi Ibrahim (Mansoura University & Nile Higher Institute of Engineering and Technology, Egypt)

### ***16:45: Efficient Enhanced Deep Learning Algorithm for Egyptian Sign Language Recognition***

Mostafa Ahmed Abdelrazik (Benha University, Egypt); Abdelhaliem Zekry (Ain Shams University & Fac. of Engineering, Egypt); Wael Mohamed (Benha University & Benha Faculty of Engineering, Egypt)

### ***17:00: Tech-Care: A High-Tech Eye-Controlled Wheelchair for Paralyzed Patients***

Hanaa Salem Marie (Delta University for Science and Technology, Egypt); Mohammed Alaa Al-Sabahi (Delta University for Science and Technology, Egypt); Ahmed Awad El-Sayed (Delta University for Science and Technology, Egypt); Ahmed Mohamed Zaki (Delta University for Science and Technology, Egypt); Omar Mahmoud Salah (Delta University for Science and Technology, Egypt); Mahmoud Elsayed Al-Sadani (Delta University for Science and Technology, Egypt); Abdallah Mohammed Abdo (Delta University for Science and Technology, Egypt); Muhammad Eyad Moawad (Delta University for Science and Technology, Egypt)

### ***17:15: Voice Pathology Classifier Using SVM Classifier***

Asmaa Nabil Mohamed (Digital HUB, Egypt); Amgad Salama (Alexandria University, Egypt); Samy Darwish (PUA, Egypt)

### ***17:30: A 32-Bit Quantum Encryption Algorithm Using Dynamic Pauli Gates***

Mohamed A Elbaset, Mr (Air Defense Colleague Alexandria University & Alexandria, Egypt); Mohamed A. Soliman (Air Defense College & Alexandria University, Egypt); Shady A Deraz (Air Defense College & Electrical Engineering, Egypt); Karim H Moussa (Xi'an Jiaotong-Liverpool University & School of Internet of Things, China)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt) CT 3 (*Communication Technologies*)

Session time Wednesday, 16:15 until 17:45

Location Room 3

## ***16:15: Performance Analysis of UAV-Based MMW/FSO Relay-Assisted System***

Moataz Mohamed Roshdy (Military Technical College, Egypt); Ehab Helmy Elshazly (Egyptian Atomic Energy Authority Egypt, Egypt & Shenzhen University China, China); Ehab Mahmoud Mohamed (Aswan University, Egypt); Ahmed Hossni Elghandour (Military Technical College, Egypt); Kamel Hassan (Future University, Egypt); Haitham Khallaf (McMaster University, Canada)

## ***16:30: Performance Analysis of MIMO FBMC Based OTPSK System***

Hossam Reda Mohamed (MTC, Egypt); Mahmoud Abdelaziz (MTC, Egypt); Amr Nagy (Military Technical College Egypt, Egypt)

## ***16:45: Machine Learning Assisted Indoor Visible Light Communication System***

Kopano Victor Menu (University of Johannesburg, South Africa); Alain Richard Ndjiongue (Memorial University of Newfoundland, Canada); Collins Leke (University of Johannesburg, South Africa)

## ***17:00: Long Range Chipless RFID System Based on FMCW RADAR and Dielectric Resonators***

Maher Khaliel (Universität Duisburg-Essen, Germany & Benha Faculty of Engineering, Benha University, Egypt); Thomas Kaiser (Universität Duisburg-Essen, Germany); Klaus Solbach (UDE, Germany); Ahmed Elawamry (Benha University, Egypt)

## ***17:15: Voltage Controlled-Bandwidth Electrooptic Push-Pull Match Zehnder Modulator with Coplanar Electrodes***

B M El-den (Delta University for Science and Technology, Egypt)

## ***17:30: Robust X-Haul Failure Mitigation for 5G/6G Networks: Adding More Self-Healing Antennas to Small Cells***

Mohamed Y. Selim (Iowa State University, USA); Ahmed E. Kamal (Iowa State University, USA)





# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## IMS 2 (*IoT, M2M, Sensor Networks, and Ad-hoc Networking*)

Session time Wednesday, 16:15 until 17:45

Location Room 5

### ***16:15: Whitelisting Requirements for Effective Cyber Defense Solutions***

May Medhat (AAST & EG-CERT, Egypt); Samir G. Sayed (Helwan University, United Kingdom (Great Britain) & University College London (UCL), Egypt); Samia Mohammed Abd-Alhalem (DU, Egypt); Ali E. Takieldeem (Delta University for Science and Technology, Egypt)

### ***16:30: Plant Disease Detection Using Artificial Intelligence Techniques for Agricultural Productivity Enhancement in Egypt***

Aya Osman (The British University in Egypt, Egypt); Sally Elghamrawy (MISR Higher Institute for Engineering and Technology & American University in Cairo AUC, Egypt)

### ***16:45: An AI-Based Prediction Model for Climate Change Effects on Crop Production Using IoT***

Sally Elghamrawy (MISR Higher Institute for Engineering and Technology & American University in Cairo AUC, Egypt)

### ***17:00: A Deep Learning Technique for Early Diagnosis of Skin Cancer Disease Using Biomedical Data***

Mohamed Shehab (The British University in Egypt, Egypt); Sally Elghamrawy (MISR Higher Institute for Engineering and Technology & American University in Cairo AUC, Egypt)

### ***17:15: An Optimized Digital Signature Algorithm for Efficient and Secure Authentication in VANETs***

Chenyi Yun (University of Glasgow, United Kingdom (Great Britain)); Mahmoud Ahmed Shawky (University of Glasgow, United Kingdom (Great Britain)); Shuja Ansari (University of Glasgow, United Kingdom (Great Britain))

### ***17:30: Machine Learning-Based Prediction of Backhaul Capacity Requirements for Cellular Networks***

Mohamed Waheed (Cairo University, Egypt); Ayman Gaber (Nile University, Egypt); Yasmine Fahmy (Cairo University, Egypt); Ahmed Khattab (Cairo University, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## RSP 3 (*Radar and Space Systems, Positioning, Navigation, and Sensing*)

Session time Wednesday, 16:15 until 17:45

Location Room 6

### ***16:15: Performance Improvement of a Space Robotic Manipulator Using Fuzzy-Based PID Controller***

Mohammed H. Al-Mola (Department of Petroleum and Refining Engineering, College of Petroleum and Mining Engineering, University of Mosul, Iraq); Sherif I. Abdelmaksoud (Aerospace Engineering Department, King Fahd University of Petroleum and Minerals, Saudi Arabia, Egypt)

### ***16:27: Performance Analysis of Quaternion Vs Euler-Based Approaches in Reduced INS/GNSS Fusion Techniques***

Maher Tarek (Technical Researches and Development Center & Suez Canal University, Egypt); Shady Zahran (Technical Researches and Development, Canada); Ahmed Radi (Technical Researches Center, Egypt); Sherief Fathi Nafea (Suez Canal University, Egypt); Eyad S. Oda (Associate Professor, Egypt); Alaa Hafez (Alexandria University, Egypt)

### ***16:40: A New Mean-Field Game Approach for Closed-Loop Strategic Swarm Maneuvering***

Mohammad Altaher Mohammad (Mansoura University, Egypt); Samir Elmougy (Mansoura University, Egypt)

### ***16:53: Designing High-Performance Mismatched Filters for Radar Applications***

Mostafa Elhoshy (Air Defense College, Egypt); Ahmed Youssef (Military Technical College, Egypt)

### ***17:06: Parameters Extraction and Suppression of Interrupted Sampling Periodic Repeater Jammer in LFM Pulse Compression Radar***

Ahmed Fawzy Hatahet (Military Technical College, Egypt); Hossameldin Aboubakr Badr Hassan (Military Technical College, Egypt); Fathy Mohamed Abdel Kader (Military Technical College, Egypt); Ahmed Mansour Abdelfattah (Military Technical College, Egypt)

### ***17:19: Performance Analysis of LFM Radar in Presence of Different Interrupted Sampling Jamming Techniques***

Ahmed Fawzy Hatahet (Military Technical College, Egypt); Hossameldin Aboubakr Badr Hassan (Military Technical College, Egypt); Fathy Mohamed Abdel Kader (Military Technical College, Egypt); Ahmed Mansour Abdelfattah (Military Technical College, Egypt)

### ***17:32: An Implementation of a Digital MTI System Which Suppresses Stationary Targets and the Moving Targets with Slow Speed***

Mohamed A. Soliman (Air Defense College & Alexandria University, Egypt); Shady A Deraz (Air Defense College & Electrical Engineering, Egypt); Said H Abd Elkhaliq (Air Defense College, Egypt); Ahmed H. EL-Sakka (Air Defense college & Alexandria university, Egypt, Egypt); Mohamed A Elbaset, Mr (Air Defense College Alexandria University & Alexandria, Egypt); Ahmed Khairy (Air Defense College, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## ASP 6 (*Antenna Systems, Propagation, Microwaves, RF Design and High Power EM*)

Session time Thursday, 09:00 until 10:30

Location Room 1

### **09:00: *Traveling Wave Elliptical Slotted SIW Antenna***

Alla Eid (Faculty of Engineering, Egypt); Amgad Salama (Alexandria University, Egypt); Ahmed S.I Amar (Honorary Research Fellow of Radio Frequency Engineering, University of Bradford, United Kingdom, Egypt); Naser Ojaroudi Parchin (Edinburgh Napier University, United Kingdom, United Kingdom (Great Britain)); Ahmed Fathy Miligy (ADC, Egypt); Assem H. Elfeky (Alexandria, Egypt)

### **09:15: *Metamaterial-Based MM-Wave Phased Array for Broadband Cellular Networks***

Mohamed A. Soliman (Air Defense College & Alexandria University, Egypt); Ahmed S.I Amar (Honorary Research Fellow of Radio Frequency Engineering, University of Bradford, United Kingdom, Egypt); Naser Ojaroudi Parchin (Edinburgh Napier University, United Kingdom, United Kingdom (Great Britain)); Diaa Fawzy (Izmir University of Economics, Turkey); Abdelmegid Allam (German University in Cairo, Egypt); Alla Eid (Faculty of Engineering, Egypt)

### **09:30: *A Multi-Band Textile-Based MTM Absorber for Energy Harvesting Applications***

Abdelmegid Allam (German University in Cairo, Egypt); Mahmoud Helala (German University in Cairo, Egypt); Diaa Fawzy (Izmir University of Economics, Turkey); Mohamed Atef Abbas (College of Engineering & Technology, Arab Academy for Science and Technology, Cairo, Egypt); Mohamed Fathy Abo sree (Arab Academy For Science and Technology Engineering Faculty & AASTMT Company, Egypt); Ahmed S.I Amar (Honorary Research Fellow of Radio Frequency Engineering, University of Bradford, United Kingdom, Egypt); Naser Ojaroudi Parchin (Edinburgh Napier University, United Kingdom, United Kingdom (Great Britain))

### **09:45: *A Broadband Stripline Gysel High Power Combiner for L-Band Radar Applications***

Ahmed Fathallah Elagamy (Ain Shams University, Egypt); Ahmed Alieldin (The Egyptian Technical Research and Development Centre, Egypt); Abdelrahman Hassan El-Akhdar (Ain Shams University, Egypt); Mohammad Darwish (Military Technical College, Egypt)

### **10:00: *Ridge Gap Waveguide Electrical Characteristics Under High Power Operation and Harsh Environmental Conditions***

Abdullah Muhammad Mahfouz (University of Assiut, Egypt); Shoukry Shams (Concordia University, Canada); Mahmoud Elsaadany (ETS, Canada); Ghyslain Gagnon (ETS, Canada)

### **10:15: *Performance Assessment of an Orthomode Transducer Under High Power Handling and Harsh Temperature Exposure***

Abdullah Muhammad Mahfouz (University of Assiut, Egypt); Shoukry Shams (Concordia University, Canada); Mahmoud Elsaadany (ETS, Canada); Ghyslain Gagnon (ETS, Canada)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## CMA 4 (Communication Software, Machine Learning and AI for Communications)

Session time Thursday, 09:00 until 10:30

Location Room 2

### ***09:00: Spoken Digit Recognition Using Machine and Deep Learning-Based Approaches***

Ahmed Adel (Air Defense College, Egypt); Khalid Mostafa Ezzat Ibrahim (Alexandria University, Egypt)

### ***09:15: A High Performance Shooting Simulator Independent of a Laser Beam***

Hossam Reda Mohammed (Air Defense College, Egypt); Kamal Hussein (Ain Shams University, Egypt); Mahmoud Ahmed khalil (Ain Shams University, Egypt); Abdelrahman Mohamed Watany (Helwan University, Egypt); Youssef Ibrahim Fayad (ADC, Egypt)

### ***09:30: Image Encryption Through Cellular Automata, S-Box and Tent Chaotic Map***

Salma Khaled (German University in Cairo, Egypt); Mohamed Kamel Gabr (German University in Cairo, Egypt); Yousef Korayem (German University in Cairo, Egypt); Wassim Alexan (German University in Cairo, Egypt)

### ***09:45: Double Layer Message Security for 3D Object Using Mathematical Sequences and Secret Keys***

Aya Yakout Alkhamese (Port Said University, Egypt); Hewayda ElGawalby (Teacher, Egypt); Ahmad H. Eid (Faculty of Engineering, Port-Said University, Egypt); Ibrahim Hanafy (Egypt, Egypt); Wael Abdelkader (Damietta University, Egypt)

### ***10:00: Three Layered Image Encryption: An Application of Hyperchaos and Cellular Automata***

Ayten Mazen (German University in Cairo, Egypt); Mohamed Kamel Gabr (German University in Cairo, Egypt); Yousef Korayem (German University in Cairo, Egypt); Wassim Alexan (German University in Cairo, Egypt)

### ***10:15: Defect Diagnosis of Hot Rolling Steel Surfaces Based on Deep Learning***

Ehab Adel Kholief (Faculty of Engineering - Alexandria University & EBSC, Egypt); Mohammad Younes (Production Engineering, Egypt); Samy Hassan Darwish (Lord, Egypt); Nashat Fors (Alexandria University, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt) CT 4 (*Communication Technologies*)

Session time Thursday, 09:00 until 10:30

Location Room 3

## **09:00: A Comparative Study of User Pairing Techniques of MIMO-NOMA System in Different Channel Models**

Shady A Deraz (Air Defense College & Electrical Engineering, Egypt); Karim H Moussa (Xi'an Jiaotong-Liverpool University & School of Internet of Things, China); Mohamed A. Soliman (Air Defense College & Alexandria University, Egypt); Mohamed A Elbaset, Mr (Air Defense College Alexandria University & Alexandria, Egypt)

## **09:15: An Iterative Hard Thresholding with Norm Exponent**

Bamrung Tausiesakul (Srinakharinwirot University, Thailand); Krissada Asavaskulkiet (Mahidol University, Thailand)

## **09:30: Effect of the Wavelength Reuse Pattern and Cell Size on the Performance of Indoor Cellular Visible Light Communication**

Youssef A Diab (Air Defense College & Alexandria University, Egypt); Asmaa E. Farahat (Electronics Research Institute, Egypt); Khalid F. A. Hussein (Electronics Research Institute, Egypt); Azhar Hamdi (Zagazig University, Faculty Of Engineering, Egypt); Rania Ahmed Elsayed (Zagazig University, Egypt)

## **09:45: Review: Pencil-On-Paper Electronics Devices Applications / Challenges**

Hamed shawky Zied (Air Defense College, Egypt); Khalil ElKhamisy (The Higher Institute of Engineering El-Shorouk Academy & El Shorouk Academy, Egypt); Sayed El-Rabie (Dep. of Electronic and Communication Eng., Egypt)

## **10:00: Fast Simple Image Encryption Technique Based on Chaos Based System**

Wageda I El sobky (Benha University, Egypt); Ahmed Khairy (Air Defense College, Egypt); Salwa Serag Eldin (Tanta University, Egypt)

## **10:15: Famous Digital Signatures Used in Smart Contracts**

Hala Saeed Omar, H omar (Benha Faculty of Engineering, Egypt); Wageda I El sobky (Benha University, Egypt); Ahmed Khairy (Air Defense College, Egypt); Tamer Omar Diab (Assistant Professor, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## GCP 3 (*Green Communication and Power Management and Control*)

Session time Thursday, 09:00 until 10:30

Location Room 5

### ***09:00: An Effective Strategy Coupled with Perturb and Observe Algorithm to Track the PV Systems' Global Maximum Power Under Partial Shading Conditions***

Ehab Mohamed Ali (Air Defense College, Egypt); Wael Mokhtar M (Air Defense College, Egypt); Hatem Mohammed Naguib Fiyad (Air Defense College, Egypt)

### ***09:15: Cyber Physical Security of Energy Hubs Using Feasibility Area Estimation***

Ahmed Abd Elaziz Elsayed (York University & Assiut University, Canada); Hany Farag (York University, Canada); Amir Asif (York University, Canada)

### ***09:30: Path Following Controller and Obstacles Avoidance Using Nonlinear Model Predictive Control***

Mohamed Mamdoh (Military Technical College, Egypt); Mohamed Ibrahim (Military Technical College, Egypt); Amr Ahmed Sarhan (Military Technical College, Egypt); Mahmoud Ashry (Military Technical College, Egypt)

### ***09:45: An Enhanced Voltage Profile for Solar PV Following Converters in Microgrid Using Data-Driven FCS-MPC***

Ahmed S. Omran (Sidpec & Arab Academy for Science, Technology & Maritime Transport, Egypt); Mostafa S. Hamad (Arab Academy for Science, Technology and Maritime Transport, Egypt); Mostafa Abedlgeiel (Arab Academy for Science and Information Technology, Egypt); Ayman Abdel-Khalik (Alexandria University, Egypt)

### ***10:00: Productivity Improvement in Metal Formation Production Stages Based on Overall Equipment Effectiveness***

Walaa Tayel (Tabbin Institute for Metallurgical Studies Industrial Engineering & Management, Egypt); Alaa Eldin Zohir Aly, Prof (Tabbin Institute for Metallurgical Studies, Egypt); Hany Fathy Abdelmaksoud, Sr. (Construction, Egypt); Samy Darwish (PUA, Egypt); Mohamed Morsy (ADC, Egypt)

### ***10:15: Cold Standby System Availability***

Ghada Mohamed Kholief (National Media Authority & AAST, Egypt); Ehab Adel Kholief (Faculty of Engineering - Alexandria University & EBSC, Egypt); Mohamed Grida (Zagazig University, Egypt); Abdel Nasser Zaied (Misr International University, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## IMS 3 (IoT, M2M, Sensor Networks, and Ad-hoc Networking)

Session time Thursday, 09:00 until 10:30

Location Room 4

### ***09:00: Detecting Dependent Malicious Nodes in Multi-State Target Detection Wireless Sensor Networks***

Samiha Mousa (Al-Hussein Bin Talal University, Jordan); Saud Althunibat (Texas A and M University at Qatar, Qatar); Abdullah Alhasanat (Alhussien Bin Talal University, Jordan); Moath Alsafasfeh (Al-Hussein Bin Talal University & College of Engineering, Jordan)

### ***09:15: A Modified Transformer Neural Network (MTNN) for Robust Intrusion Detection in IoT Networks***

Wahaj Ahmed (Toronto Metropolitan University, Canada); Fabio Kientz (Toronto Metropolitan University, Canada); Rasha Kashef (Ryerson University, Canada)

### ***09:30: Design and Evaluation of a Wearable Glove for Sign Language Translation Using Cross-Correlation and Flex Sensors***

Amir R. Ali (The German University in Cairo (GUC) & PI of the Applied-Science & Robotics Laboratory for Applied-Mechatronics ARATronics Laboratory, Egypt); Jessica Magdy Gergis Haleem (The German University in Cairo, Egypt); Aya ElNahas (The German University in Cairo, Egypt); Marina Samir (The German University in Cairo, Egypt); Samantha Kamel (The German University in Cairo, Egypt); Mariam Fathy (The German University in Cairo, Egypt)

### ***09:45: Analysis Sensing Voltage of Lead Zirconate Titanate (PZT) Piezoelectric MEMS Gyroscope and Comparing with Aluminum Nitride (AlN), Zinc Oxide (ZnO) and Barium Titanate (BaTiO3)***

Sherif A. Ghamry (Arab Academy for Science and Technology, Egypt); Ahmed Khairy (Air Defense College, Egypt); Roshdy A AbdelRassoul (Arab Academy for Science and Technology & College of Engineering & Technology, Egypt); Iman Gamal Eldin Morsi (Arab Academy for Science and Technology, Egypt)

### ***10:00: Towards Content-Based Image Retrieval for Encrypted Images over Cloud Computing: Review of Recent Trends***

Rowayda Adel Elsaid (BFCAI & Benha University, Egypt); Metwally Rashad (Benha University, Egypt); Noha E. El-Attar (Benha University, Egypt); Ahmed Elsayy (Benha University & Delta Technological University, Egypt)

### ***10:15: ADAS System Integrated with New Architecture for V2X in Adaptive AUTOSAR***

Mona Helmy (Siemens, Egypt); Mohamed Mahmoud Ibrahim (Ain Shams University, Egypt); Ismail Amr (Ain Shams University, Egypt); Ghada Alaa (Ain Shams University, Egypt); Rawan Waleed (Ain Shams University, Egypt); Salma Sherif (Ain Shams University, Egypt); Sandy Ibrahim (Ain Shams University, Egypt); Ahmed Haggag (Ain Shams University, Egypt); Moamen Waleed (Ain Shams University, Egypt); Ahmed Ehab (Ain Shams University, Egypt)



# ITC-Egypt 2023: 2023 International Telecommunications Conference (ITC-Egypt)

## RSP 4 (*Radar and Space Systems, Positioning, Navigation, and Sensing*)

Session time Thursday, 09:00 until 10:30

Location Room 6

### **09:00: *Comparative Synthesis of Linear and Nonlinear Attitude Controllers for LEO Satellite at Stabilization Mode***

Khaled Mohsen (Military Technical College, Egypt); Mohamed Ibrahim (Military Technical College, Egypt); Ahmed M. Kamel (Military Technical College, Egypt); Mahmoud Ashry (Military Technical College, Egypt)

### **09:12: *FMCW SAR Imaging Based on Software Defined Radio Architecture***

Mohamed Mamdouh Ashry, Mr (Electronic Warfare, Egypt); Ahmed S. Mashaly (Military Technical College, Egypt)

### **09:25: *Design and Assessment of Satellite Orbit Simulator and Predictor***

Ahmed Abdelhady Ahmed (Military Technical College, Egypt); Hossam Hendy (Military Technical College, Egypt); Amr Abd el azeem Ali (Military Technical College, Egypt); Ahmed M. Kamel (Military Technical College, Egypt)

### **09:38: *Design and Simulation of Fuzzy-Adaptive-PID Controller for Positioning of Stewart Platform Using Electric Linear Actuators***

Mohamed R. Mohamed (Military Technical College, Egypt); Amr A. Roshdy (Military Technical College, Egypt); Amr Abd el azeem Ali (Military Technical College, Egypt); Mohamed A. Fayed (Military Technical College, Egypt)

### **09:51: *A Dynamic Thrust Control for Pursuer Time-To-Go Reduction***

Ahmed Khairy (Air Defense College, Egypt); Alaa Hafez (Alexandria University, Egypt); Maher Tarek (Technical Researches and Development Center & Suez Canal University, Egypt)

### **10:04: *Evaluating the Effect of Stage Removal on the Performance of Phase Gradient Autofocus (PGA) Algorithm***

Ahmed Salah Elbohy (MTC, Egypt); Ahmed S. Mashaly (Military Technical College, Egypt); Ahmed Azouz (Military Technical College, Egypt); Ashraf Helmy (National Authority for Remote Sensing, Egypt)

### **10:17: *Comparative Analysis of Feature Fusion Techniques for Enhancing RGB-IR Image Matching***

Ahmed Elsayed Mohamed Fouad (MTC, Egypt); Yehia Zakria Elhalwagy (Military Technical College, Egypt); Hossam Hendy (Military Technical College, Egypt); Ibrahim Arafa (Military Technical College, Egypt)