3rd International Conference on Electrical, Communication and Computer Engineering (ICECCE 2021)

12-13 JUNE 2021

Kuala Lumpur / Malaysia

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CONFERENCE PROGRAM BOOKLET

IEEE Conference Record No: 52056



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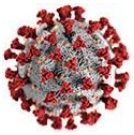
12 June 2021

	ROOM A	ROOM B	ROOM C	ROOM D
10.40-11.00	**Welcome Talk on behalf of Organizing Committee:** - Prof. Dr. Mardeni Bin Roslee -Prof. Dr. Amin Badshah - Prof. Dr. Nadeem Ahmed Sheikh			
11.00-13.00	**Parallel Session 1A:** Neural Networks, Deep Learning, and Intelligent Systems	**Parallel Session 1B:** Power Generation and Renewable Energy Systems	**Parallel Session 1C:** Networks Security and Reliability	**Parallel Session 1D:** Mixed Topics
13.00-13.30	**BREAKFAST / LUNCH / DINNER**			
13.30-14.00	**Plenary Session 1: Keynote Speakers** - Prof. Dr. Mardeni Bin Roslee			
14.00-15.45	**Parallel Session 2A:** Neural Networks, Deep Learning, and Intelligent Systems	**Parallel Session 2B:** Power Generation and Renewable Energy Systems	**Parallel Session 2C:** Intelligent Robotics and Control Systems	**Parallel Session 2D:** Mixed Topics
15.45-16.00	**TEA BREAK**			
16.00-16.30	**Plenary Session 2: Keynote Speakers** - Prof. Dr. Victor Chang			
16.30-18.00	**Parallel Session 3A:** Power Generation and Renewable Energy Systems	**Parallel Session 3B:** Advanced Electronics	**Parallel Session 3C:** Antennas, Propagation and Radar Systems	**Parallel Session 3D:** Wireless Communication Systems and Technologies
18.00-18.15	**TEA BREAK**			
18.15-20.15	**Parallel Session 4A:** Neural Networks, Deep Learning, and Intelligent Systems	**Parallel Session 4B:** Power Generation and Renewable Energy Systems	**Parallel Session 4C:** Networks Security and Reliability	**Parallel Session 4D:** Software Engineering

13 June 2021

	ROOM A	ROOM B	ROOM C	ROOM D
11.00-11.30	**Plenary Session 3: Keynote Speakers** - Prof. Dr. Patrick S. P. Wang			
11.30-13.00	**Parallel Session 5A:** Neural Networks, Deep Learning, and Intelligent Systems	**Parallel Session 5B:** Signal and Image Processing Techniques	**Parallel Session 5C:** Advanced Electronics	**Parallel Session 5D:** Intelligent Robotics and Control Systems
13.00-13.30	**BREAKFAST / LUNCH / DINNER**			
13.30-15.15	**Parallel Session 6A:** Neural Networks, Deep Learning, and Intelligent Systems	**Parallel Session 6B:** Power Generation and Renewable Energy Systems	**Parallel Session 6C:** Mixed Topics	
15.15-15.30	**TEA BREAK**			
15.30-16.00	**Plenary Session 4: Keynote Speakers** - Dr. Fazel Mohammadi			
16.00-17.45	**Parallel Session 7A:** Neural Networks, Deep Learning, and Intelligent Systems	**Parallel Session 7B:** Mixed Topics	**Parallel Session 7C:** Mixed Topics	
17.45-18.00	**TEA BREAK**			
18.00-19.45	**Parallel Session 8A:** Antennas, Propagation and Radar Systems	**Parallel Session 8B:** Signal and Image Processing Techniques	**Parallel Session 8C:** Wireless Communication Systems and Technologies	
19.45-20.00	**TEA BREAK**			
20.00-20.30	**Closing Session:** Prof. Dr. Mardeni Bin Roslee Dr. Yunus UZUN, Dr. Shafqat Ullah Khan Dr. Athar Waseem			



12 June 2020

PLENARY SESSION 00

Session 00: Opening Session – Welcome Talk on behalf of Organizing Committee Room A	
10:40-11:00	*Prof. Dr. Mardeni Bin Roslee* *Prof. Dr. Amin Badshah* *Prof. Dr. Nadeem Ahmed Sheikh*

PARALLEL SESSIONS 1

Parallel Session 1A: Neural Networks, Deep Learning, and Intelligent Systems Session chair: **Hafizza Abdul Ghapar** Room A		
11.00-13.00	**Akmal Ramadhan Arifin**, Prima Dewi Purnamasari, Anak Agung putri Ratna	**14** *Automatic Essay Scoring for Indonesian Short Answers using Siamese Manhattan Long Short-Term Memory*
	Buldan Muslim, Charisma Juni Kumalasari, Nurrohmat Widjajanti, **Asnawi**	**62** *72 Hours Ahead Prediction of Ionospheric TEC using Radial Basis Function Neural Networks*
	Nur Athirah Zailan, Anis Salwa Mohd Khairuddin, Uswah Khairuddin, Akira Taguchi	**94** *YOLO-based Network Fusion for Riverine Floating Debris Monitoring System*
	Nor Aziah Amirah Nor, Uswah Khairuddin, Rubiyah Yusof, Nik Mohamad Aizuddin Nik, Ridzuan Yunus	**95** *Esophagus Detection Using Deep Learning Method*
	Hafizza Abdul Ghapar, Anis Salwa Mohd Khairuddin, Azlin Ahmad	**96** *New Feature Extraction for Wood Species Recognition System via Statistical Properties of Line Distribution*
	Anthony B. Villa, Rogie P. Jacinto, Michell Ann A. Ramos, **Stephen Paul L. Alagao**	**197** *Determination of Citrullus Lanatus "Sweet-16" Ripeness Using Android-Based Application*
	Nor'asnilawati Salleh, Nurulhuda Firdaus Mohd Azmi, Siti Sophiayati Yuhaniz	**236** *An Adaptation of Deep Learning Technique In Orbit Propagation Model Using Long Short-Term Memory*
	Arsh Agarwal, Aryan Singhal, Anmol Srivastava, Piyush Tewari	**295** *FA-GAN: High quality face aging*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

Parallel Session 1B: Power Generation and Renewable Energy Systems Session chair: Zahid Ullah Room B		
11.00-13.00	**Rafiq Asghar**, Kaleem Ullah, Zahid Ullah, Athar Waseem, Nauman Ali, Kamran Zeb	**111** *Assessment of the performance and shortcomings of common electric vehicle battery technologies*
	Z. Ullah, R. Asghar, N. Ali, A. Waseem, A. Khan, **T. Mujahid**, B. Khan, S. M. Ali, C. A. Mehmood	**114** *Digital Signal Processing for Power Quality Enhancement within Smart Grid*
	Hao Wu, Xiaojun Fu, Shengdong Hu	**198** *A 650V Enhancement Mode GaN HEMT Device with Field Plate for Power Electronic Applications*
	Amil Daraz, Dr. Engr Suheel Abdullah Malik, Dr. Athar Waseem	**210** *Genetic Algorithm based I-P controller for superheated steam temperature control system*
	Dewan Mahnaaz Mahmud, Fardeen Mahbub, **Farhan Tasnim**, MD. Zilan Uddin Saif, Siam Hasan Khan	**232** *A Review on Solar and Biomass Energy for Overcoming the Energy Scarcity of Bangladesh and its Prospects*
	Jiayi Fan, YongKeun Lee	**290** *Copper Loss Reduction of Torque Sharing Function in Switched Reluctance Motor by Division of Commutation Region*
	Jiayi Fan, YongKeun Lee	**291** *Extending Maximum Speed of Torque Sharing Function Method in Switched Reluctance Motor*
	Luu Huu Vinh Quang	**322** *Assessıng the Transıent Stabılıty Under The Impact Of Double Shot Alr To Rank The Power Buses In Multı Machıne Power Systems*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

Parallel Session 1C: Networks Security and Reliability Session chair: Aisha Zahid Junejo Room C		
11.00-13.00	Quoc-Dung Ngo, Huy-Trung Nguyen, Viet-Dung Nguyen, **Cong-Minh Dinh**, Anh-Tu phung, Quy-Tung Bui	**37** *Adversarial Attack and Defense on Graph-based IoT Botnet Detection Approach*
	Tran Haoang Hai, **Le Hai Nam**	**77** *A Practical Comparison of Deep Learning Methods for Network Intrusion Detection*
	Tomoaki Ukezono	**89** *Resistance for Side-Channel Attack by Virtual Dual-Rail Effect*
	Chung T. Kong	**151** *Hacking CCTV by changing time*
	Aisha Zahid Junejo, Dr. Manzoor Ahmed Hashmani, Dr. Abdullah Alabdulatif	**163** *Blockchain Privacy Preservation by Limiting Verifying Nodes' During Transaction Broadcasting*
	Jun O Seo, Sathiamoorthy Manoharan, Ulrich Speidel	**242** *Automatic Detection of Storage-based Covert Channels*
	Jun O Seo, Sathiamoorthy Manoharan, Ulrich Speidel	**272** *Feasibility Evaluation of Long-Distance Network Timing-based Covert Channels*
	Yang Qin, Masaaki Kondo	**328** *Federated Learning-Based Network Intrusion Detection with a Feature Selection Approach*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

Parallel Session 1D: Mixed Topics Session Chair: Mardeni Bin Roslee Room D		
11.00-13.00	Jung Yoon, **Yvonne Yeo**	**59** *Memory Hardware Quality Requirements for Hybrid Multi Cloud Computing*
	Abdul Mu'iz Maidi, Pg. Emeroylariffo Abas, Feroza Begum	**88** *Highly Sensitive Photonic Crystal Fiber Sensor for Liquid Detection*
	Mohd Zainal Bin Nurdin, Zubaida Yusoff, Mardeni Roslee, Shaiful Jahari Hashim, Azah Syafiah Mohd Marzuki	**115** *High Bandwidth Hybrid Supply Modulation Using Totem Pole Configuration for Envelope Tracking Applications*
	Ida, Hamdan Gani, Muhammad Faisal, Rosnani	**238** *Optimal Auto Calling Algorithm For Real-Time Condition Reporting By Corruption Handling Officer*
	Subrata Kumar Das, Mohammad Zahidur Rahman	**264** *A Compression Technique for Electronic Health Data through Encoding*
	Neramitr Chirakanphasisarn, Thadsanee Thongkanluang	**304** *Measurement of Muscle Stimulation and Hot Compression for Rehabilitation*
	Unan Yusmaniar Oktiawati, Muhammad Nur Fajri Alfata, Fahmizal, Spetia Dini Rahayu, Ahmad Fauzi Ridwa, Dani Yudha Kusuma, Christian Vidia Hari Permana	**334** *Development of Monitoring System of Furnace Temperature for Fire Resistance Test*
	Ariunobolor Purvee, Otgonchimeg Choidorj	**403** *Optimization of Input Values of Simulated Motors Using Grey Relational Analysis*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



PLENARY SESSION 1

Plenary Session 1: Keynote Speaker Room A		
13:30-14:00	**Prof. Dr. Mardeni Bin Roslee**	**-382-** *Radio Resource Allocation for Interference Management in Device to Device (D2D) 5G Networks*

PARALLEL SESSIONS 2

Parallel Session 2A: Neural Networks, Deep Learning, and Intelligent Systems Session chair: **Kubra Tas** Room A		
14.00-15.45	**Chiao-Shing Lin**, Mohammed Yunus Abdul Gaffar, Jarryd Son, Simon Winberg	**71** *Dynamic Hand Gesture Recognition using Doppler Sonar and Deep Learning*
	Efsa Cakur, Gursel Baltaoglu, Asir Furkan Kayacik, **Berkan Ozcan**, Mehmet S. Aktas	**83** *Real-Time Fraud Prediction On Streaming Customer-Behaviour Data*
	Kubra Tas, Eyup Onder, Mehmet S. Aktas	**86** *On the Implicit Feedback Based Data Modeling Approaches for Recommendation Systems*
	Alperen Mollaoglu, Gursel Baltaoglu, Efsa Cakur, Mehmet S. Aktas	**87** *Outlier Detection on Streaming Customer-behavior Data with Unsupervised Learning Methods*
	Ahlem Drif, Houssem Eddine Zerrad, Hocine Cherifi	**93** *Context-Awareness in Ensemble Recommender System Framework*
	Saheed Salahudeen Abdullahi, Sun yiming, Shamsuddeen Hassan, Abdulrasheed Mustapha, Ahmad Muhammad Aminu, AbdulKadir Abdullahi, Musa Bello, Saminu Mohammad Aliyu	**179** *Deep Sequence Models for Text Classification Tasks*
	Waqas Arshad, **Muhammad Ali**, Muhammad Mumtaz Ali, Arifa Javed, Saddam Hussain	**213** *Multı-Class Text Classıfıcatıon: Model Comparıson And Selectıon*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

Parallel Session 2B: Power Generation and Renewable Energy Systems Session chair: Abeer Farouk Al-Attar Room B		
14.00-15.45	**Umar Musa**, Abdullahi A.Mati. Abdullahi A. Mas'ud, Gaddafi S. Shehu, Ricardo Albarracin-Sachez, Johantan M.Rodriguez-Serna	27 *Modeling and Analysis of Electric Field Variation across Insulation System of a MV power Cable*
	Kassimi Youghourta, Guettaf Abderrazak, Ali Arif	53 *6/4 SRM electromagnetic modeling and control by using Finite element method*
	Mohammad Mominur Rahman, Ghazi A. Ghazi, Essam A. Al-Ammar, Wonsuk Ko	183 *Techno-Economic Analysis of Hybrid PV/Wind/Fuel-Cell System for EVCS*
	Abdulbari Ali Mohamed FREI, Muhammet Tahir GUNESER	216 *Optimal Accommodation of DERs in Practical Radial Distribution Feeder for Techno-Economic with Artificial Bee Colony Algorithm*
	Abdulbari Ali Mohamed FREI, Muhammet Tahir GUNESER	217 *A Huristic Method Base For Optimum Placement Of Distributed Energy Resources In Practical Radial Distribution Feeder*
	Majid. S. M. Al-Hafidh, Omar Sh. Al-Yozbaky, Azhear. S. Al-Fahadi	248 *A New Approach to Reconfiguration of Electric Distribution Networks*
	Abeer Farouk Al-Attar	276 *Optimizing Mechanical and Physical Properties of Phosphorus Pentoxide as Solid Electrolyte*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

Parallel Session 2C: Intelligent Robotics and Control Systems Session chair: Aleem Khaliq Room C		
14.00-15.45	**Muhammad Hamza Ali**, Muhammad Salman Kabir	24 *Design and Development of an Unmanned Ground Vehicle with Serial Manipulator and its Control Mechanism*
	Zaharuddeen Haruna, Muhammed B. Mu'azu, Yusuf S. Abubakar, Emmanuel A. Adedokun	49 *Path Tracking Control of Four Wheel Unmanned Ground Vehicle using Optimized FOPID Controller*
	Joao Vitor Assmann, Marcelo Gotz, Ivan Muller, Achim Rettberg	90 *Distributed Embedded Platform for Controllers Following the Supervisory Control Theory*
	Serigne Modou DIOUF, Ibrahima GUEYE, Abdoulaye KEBE, Moustapha DIOP	113 *Comparative study of conventional PID and fuzzy logic controllers applied to an electric oven*
	Corneliu Andrei NAE, Ioan Dumitrache	265 *Adaptive Driving Models for Intelligent Traffic Cyber Phyisical Systems*
	Samer Mutawe, **Mohammad Hayajneh**, Suleiman BaniHani	316 *Robust Path Following Controllers for Quadrotor and Ground Robot*
	Ossama Ammari, Khalid El majdoub, Rachida Baz, Abderrahim Taouni	381 *Longitudinal modelling of Electric Vehicle driven by a BLDC In-Wheel Motor based on Pacejka tire model*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



Parallel Session 2D: Mixed Topics Session chair: Mohamad Huzaimay Jusoh Room D		
14.00-15.45	**Egils Ginters**, Jagadeesh Chakkaravarthy Revathy	33 Attributes of Digital Technologies and Related Impacts on Sustainability Assessment
	Pedro Juan Roig, Salvador Alcaraz, Katja Gilly, Carlos Juiz	46 *Applying multidimensional geometry to basic fog computing designs*
	Pedro Juan Roig, jJulio Jornet, Adolfo Albaladejo, Juan Carlos Hernandez	47 *Remote surveillance system in isolation for Covid-19*
	Chaib Ras Amira, Bouzerara Ramdane, Bouzeria Hamza, Aissaoui Meriem, Mammeri Imen	98 *Genetic algorithm approach of HB-RPC for adaptive power quality improvement in railway traction chain*
	Rasoul Sadeghi, Bruno Correia, Emanuele Virgillito, Antonio Napoli, Nelson Costa, Joao Pedro, Vittorio Curri	120 *Comparison of Transceiver and C+L Band Upgrades: Network Traffic and Energy Assessment*
	Emanuele Virgillito, Andrea Castoldi,Stefano Straullu, Rosanna Pastorelli, Vittorio Curri	121 *QoT Computation for 100G Lightpaths Routed on 10G-loaded Dispersion-Managed Network Segments*
	Honggang Kuang, Qian Wang, Xiong Liu, Wenyan Gan, **Decheng Cao**	191 *Research on Super hydrophobic Modification and Characteristics of Plexiglass Surface*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

PLENARY SESSION 2

Plenary Session 2: Keynote Speaker Room A		
16:00-16:30	**Prof. Dr. Victor Chang**	**Title-** *The AI–based Data Science and Analytics services*

PARALLEL SESSIONS 3

Parallel Session 3A: Power Generation and Renewable Energy Systems Session chair: **Ingmar Leibe** Room A		
16:30-18.00	**Muhammad Umar Siddiqui**, Sajid Ali, Sikandar Khan, Sadaqar Ali, Mamon M. Horoub	**401** *Optimum Tilt Angles of Solar Collectors in Saudi Arabia*
	bernard Tonderayi Mangara	**421** *Revisiting some computation methods for estimating the parameters of the Weibull Distribution*
	Mirza Batalovic, Selma Grebovic, Mirza Matoruga, Sead Berberovic	**435** *Modeling of Partial Discharge Activity inside the Defects in Power Cable using COMSOL Mph-Matlab Software Platform*
	Habib Conrad Sotiman Yotto, Patrice Koffi Chetangny, Sossou Houndedako, Jacques Aredjodoun, Didier Chamagne, Gerald Barbier, Antoine Vianou	**455** *Estimation and forecasting electricity load in Benin: using econometric model ARIMA/GARCH*
	Dr. Nassipkul Dyussembekova, **Dr. Ingmar Leibe**, M.Eng. Michelle Mustroph, Prof. Dr.-Ing. Reiner Schutt	**461** *Possibilities for grid friendly system integration of renewables through power electronic based devices in the electrical energy supply*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



Parallel Session 3B: Advanced Electronics Session chair: Tobias Scheipel Room B		
16:30-18.00	**Kentaro Hori**, Daichi Mochizuki, Yosimi Kikuchi, Hiroyuki Wakiwaka, Makoto Sonehara, Toshiro Sato	45 *Effects of Magnetic Pole Arrangement on Braking Torque of Eddy Current Brakes*
	Oliver Niebuhr, Anna Gutnyk	48 *Pronunciation engineering: Investigating the link between jaw-movement patterns and perceived speaker charisma using the MARRYS cap*
	John Xavier Toledo, Jennibeth Gatal, John Imperial	70 *Configurable Precision IEEE 754-2019 Floating-Point Square Root IP using CrossLink-NX FPGA*
	Tobias Scheipel, Marcel Baunach	80 *papagenoReQ: Generation of Embedded Systems from Application Code Requirements*
	Mathangi R, N. E. Alias, Afiq Hamzah, M.L.Peng Tan, Mathan. N.	127 *Performance Analysis of an Efficient Montgomery Multiplier using 7nm FinFET and Junctionless FinFET*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

Parallel Session 3C: Antennas, Propagation and Radar Systems Session chair: **Shafqat Ullah** Room C		
16:30-18.00	**Syed Hamza Faisal**, Hamza Abbasi, Saleem Shahid, Shahryar Saleem	55 *Multi-Band Antenna with L-U-E Slots for WiMAX and WLAN Applications*
	Tauriq Latief, Simon Winberg, Amit Mishra	67 *The Design of a Two-element Radio Interferometer Using Satellite TV Equipment*
	Nurhan Kahyaoglu, Ugur Celtekligil, Oral Erdogan, Metin Cavdar	75 *Development of a Brushless DC (BLDC) Motor Driven Retractable Sonar Antenna (RESA) System Design by means of Hydrodynamic Analysis*
	Aykut Cinay, Erol Kurt, **Kayhan Celik**	101 *Design and Implementation of a 2.4 GHz Yagi-Uda Antenna and Dependence of the Antenna Parameters to the Structural Parameters*
	Emtiaz Ahmed Mainul, Dr. Md. Faruque Hossain	132 *A Miniaturized Triple Band DGS Implantable Antenna for Biotelemetry*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



Parallel Session 3D: Wireless Communication Systems and Technologies Session chair: **Omar Alzoubi** Room D		
16:30-18.00	**Jingwei Wu**, Benqing Guo, Huifen wang, Haifeng Liu	**314** *A 2.4 GHz 87 uW Low-Noise Amplifier in 65nm CMOS for IoT applications*
	P Venkata Naveen Kumar, Yashwanth D, Venkata Rakesh J, P Veerakarthik, **Shanidul Hoque**	**337** *Link Maintenance Probability for Pool based Spectrum Handoff in Cognitive Radio Networks*
	Haifeng Liu, Benqing Guo, Huifen Wang, **Jingwei Wu**	**340** *A Ka-band Vector-Sum Phase Shifter in 65nm CMOS for Phased Array Receivers*
	Mohd Shafarudin Osman, Azizul Azizan, Khairul Nizam Hassan, Hadhrami Ab. Ghani, Noor Hafizah Hassan, Fitri Yakub, Salwani Mohd Daud, Liza Abdul Latiff	**373** *BLE-based Real-time Location System Integration with Hospital Information System to Reduce Patient Waiting Time*
	Mohammad Tawhid Kawser, **Md. Monzurul Haque**, Md. Samiur Rahman, Zubayer Kabir Eisham	**398** *Estimation of Outdoor to Indoor Loss Variation Pattern within 5G Spectrum and Loss Model Comparison*
	Omar Alzoubi	**413** *Improving the Performance of MIMO Mobile-to-Mobile Fading Channel Simulators Using New Parameterization Methods*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

PARALLEL SESSIONS 4

Parallel Session 4A: Neural Networks, Deep Learning and Intelligent Systems Session chair: Muhammad Imtiaz Room A		
18.15-20.15	**Bipasha Kundu**, Dr. Desineni Subharram Naidu	**20** *Classification and Feature Extraction of Different Hand Movements from EMG Signal using Machine Leaning based Algorithms*
	Gulnur Ozturk Sahinkaya, Damla Erek, Hilal Yaman, Mehmat S. Aktas	**40** *On the Data Analysis Workflow for Predicting Customer Churn Behavior in Cargo and Logistics Sectors: Case Study*
	Daniel Abujabra Merege, Rafael Pillon Almeida	**44** *Natural Language Processing to forecast 2020 Chilean national plebiscite results: a Daoura project*
	Omer Yigit Astepe, Ali Seymen Alkara	**50** *Predicting Maintenance Priority with AI*
	Ulku F. Gursoy, Muhammet Kurulay, Mehmet S. Aktas	**56** *Customer Churn Behavior Predicting Using Social Network Analysis Techniques: A Case Study*
	Doruk Eren Aktas, Memet S. Aktas	**63** *Sequential Rule Mining on the Student Behavior Data of an E-Learning Platform in the Field of Financial Sciences: Case Study*
	Yasmeen shaher Alslman, Anas Abu Taleb	**64** *Exchanging Digital Documents Using Blockchain Technology*
	Tanmay U. Sane, Tanuj U. Sane	**431** *Artificial Intelligence and Deep Learning applications in Crop Harvesting Robots - A Survey*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



Parallel Session 4B: Power Generation and Renewable Energy Systems Session chair: Gama Ali Room B		
18.15-20.15	Horacio M. Frene, Carlos D. Arrojo, Ricardo Dias, José C. Scaramutti	286 *Mechanical stresses of electromagnetic origin Effects produced by three-phase short-circuit currents on a rigid busbar system*
	Valentyn Isaiev, Oleh Velychko	21 *Characterization of Three-Phase Calibrator for Traceable Measurement of Voltage Unbalance*
	Muhannad Alshareef	65 *A New Protection Scheme for Low Voltage DC Microgrids*
	Basma Gamal Mahmoud, Shady H. E. Abdel Aleem, Mahmoud Sayed	74 *Sine-Cosine Algorithm for Optimal Capacitor Allocation in Distribution Systems Operating Under Non-Sinusoidal Conditions*
	Gama Ali, Hamed H. Aly, Timothy Little	108 *A Modified Ant Lion Optimization Technique for Economic Emission Dispatch Including Biomass*
	Gama Ali, Hamed H. Aly, Timothy Little	109 *Using HOMER software to investigate, size and apply renewable energy sources in a convention center in Sabratha, Libya*
	Ana Carolina Martinazzo Kanitz, Euler Ribeiro, Marcos Aurelio Izumida Martins, Kleber Duarte Tomaz, Silvia de Francisci	279 *Hot Spot Analysis in Asset Inspections in The Electricity Distribution Area*
	Rodrigo Trentini, R¨udiger Kutzner, Lutz Hofmann	3 *Modeling of regulated power systems based on the Electromechanical Energy Approach for assessing small signal stability*
BREAKFAST / LUNCH / DINNER/TEA BREAK		

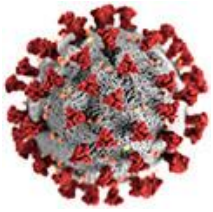


Parallel Session 4C: Networks Security and Reliability Session chair: Muhammad Ilyas Room C		
18.15-20.15	**Simon Winberg**, Subha Singh	**25** *Real-Time Event-driven Air Quality Inspection Framework for City-wide Pollution Level Monitoring*
	Sabryna Vendramin Fernandes, Tiago Rabelo Chaves, Marcos Aurelio Izumida Martins, Ricardo O. Brandao, Amadeu F. Macedo, Kennedy A. Martins	**142** *Study of the Primary Substation Digitalization*
	Menachem Domb, Guy Leshem	**202** *Rain Attenuation Prediction for 2.4-72GHz using LTSM, an artificial recurrent neural networks technology*
	Tariq Emad Ali, Ameer Hussein Morad, Mohammed A. Abdala	**212** *Efficient Private Cloud Resources Platform*
	Turki Basher Alshammari, Ayedh S. alanazi	**300** *Security Threats Against the Internet of Things at Home*
	Jitendra Goyal, Dr. Mushtaq Ahmed, Dr. Dinesh Gopalani	**380** *Empirical Study of Standard Elliptic Curve Domain Parameters for IoT Devices*
	Hasan Mohamed Marah, Jawad Rashid Khalil, Asem Elarabi, Muhammad Ilyas	**476** *DMVPN Network Performance Based on Dynamic Routing Protocols and Basic IPsec Encryption*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



Parallel Session 4D: Software Engineering Session chair: Maged Mikhail Room D		
18.15-20.15	Alipbayev K.A, Yermoldina G.T, Bapishev A.M, **Aden A.E**	**102** *Modernization of the information and analytical system of the crash areas of the Baikonur cosmodrome during the controlled descent of the spent stage of the launch vehicle*
	Apiwe Hotele, **Simon Winberg**, Ludwig Schwardt	**107** *Immersion Cooling Monitoring and Prediction System for Meerkat Radio Astronomy Imager*
	Maged Mikhail, Vu Duong, Damian Podgorski	**330** *The New Solution for Robotics Education*
	Yudi Guzman, Alexis Tavara, Rodolfo Zevallos, Hugo Vega	**352** *Implementation of a Bilingual Participative Argumentation Web Platform for collection of Spanish Text and Quechua Speech*
	Joao Paulo Delgado Preti, **Adriano Neres Araujo Souza,** Evandro Cesar Freiberger, Tiago de Almeida Lacerda	**367** *Monolithic to Microservices Migration Strategy in Public Safety Secretariat of Mato Grosso*
	Ivan Ostheimer, Mario Hercog, Bojan Bijelic, Denis Vranjes	**284** *Efficient Integration Model of MAS and Blockchain for emergence of Self-Organized Smart Grids*
	Michał Rogala, Jakub Gajewski	**51** *Numerical and experimental analysis of bent tubular elements filled with porous material*
BREAKFAST / LUNCH / DINNER/TEA BREAK		





13 June 2020

PLENARY SESSION 3

Plenary Session 3: Keynote Speaker Room A		
11:00-11:30	**Prof. Dr. Patrick S. P. Wang**	**Title**- *Intelligent Pattern Recognition (IPR) and Applications to Imaging*

PARALLEL SESSIONS 5

Parallel Session 5A: Neural Networks, Deep Learning and Intelligent Systems Session chair: Mudassir Khan Room A		
11.30-13.00	**Md. Ferdous**, Sk. Md. Masudul Ahsan	**303** *Multi-Scale Safety Hardhat Wearing Detection using Deep Learning: A Top-Down and Bottom-Up Module*
	Josh Daniel L. Ong, Erinn Giannice T. Abigan, Luis Gabriel A. Cajucom, Patricia Angela R. Abu, Ma. Regina Justina E. Estuar	**333** *Transfer Learning in Ensemble Convolutional Neural Networks Toward the Detection of Microscopic Fusarium Oxysporum*
	Abdelsalam Hamdi Abdelaziz, Yee Kit Chan, Voon chet koo	**344** *Enhancement for License Plate Recognition using Image Super Resolution technique*
	Mustafa Abbas Abbood Albadr, Sabrina Tiun, Masri Ayob, Taj-Aldeen Naser Abdali, Aymen Fadhil Abbas	**348** *Extreme Learning Machine for Automatic Language Identification Utilizing Emotion Speech Data*
	Ashwathy Bhooshan, Hari V S	**377** *Recurrent Neural Network Estimator for Stock Price*
	Qianyu Cao, Weihong Han	**11** *Key Technologies and Application of Big Data Analysis*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



Parallel Session 5B: Signal and Image Processing Techniques Session chair: Maria Murad Room B		
11.30-13.00	**Koki Takenaka**, Kenji Ozawa	**32** *Suppression of Multiple Noises with Different Directions of Arrival Using Instantaneous Spectral Subtraction*
	Anila Faraz khan, Abdul Jalil, Ihsan ul Haq, Syed Ihtesham Hussain Shah	**43** *Automatic Localization of Macula and Identification of Macular Degeneration in Retinal Fundus Images*
	Maria Murad, Abdu Jalil, Muhammad Bilal, Shahid Ikram, Ahmad Ali, Khizer Mehmeed, Baber Khan	**72** *Gaussian-Radial Under-Sampling Based CSMRI Reconstruction Using A Modified Interpolation Approach*
	Shinichi Sugahara, Mikio Mori	**250** *Feasibility of using Air-conducted and Bone-conducted Sounds Transmitted through Eyeglasses Frames for User Authentication*
	Muhammad Yudhi Rezaldi, Budi Nugroho, Siti Kania Kushadiani, Abdurrakhman Prasetyadi, Agus Men Riyanto, Nuraini Rahma Hanifa, Ambar Yoganingrum	**379** *A Systematical Review of the Tsunami Hazards Modelling*
		

Parallel Session 5C: Advanced Electronics Session chair: Zubaida Yusoff Room C		
11.30-13.00	**Guoxiang Sun**, Lanxi Li, Weidong Ding, Saikang Shen	**167** *Bipolar Solid-State LTD Based on Push-pull Circuit*
	Saikang Shen, Guoxiang Sun, Weidong Din, Lauxi Li	**168** *Design and Application of Repetitive Nanosecond Pulse Generator Based on Avalanche Transistors*
	Fajar Suryawan	**207** *FPGA-based Geometric Test Pattern Generator*
	Bui Duc An, Nguyen Hoai Phong, Le Minh Phuong	**306** *Designing a High Efficiency Flyback LED Driver with Unity Power Factor*
	K Sarangam, N bheema rao	**433** *A Second-Order Switched Capacitor Passive Sigma Delta Modulator with Bootstrapped Switches in FinFET Technology*
	Khirullah Abdul Hamid, Maria Abu Bakar, Azman Jalar, Aiman Hakim Badarisman	**324** *Incorporation of big data in package corrosion problem-solving methodology in the semiconductor*
		

Parallel Session 5D: Intelligent Robotics and Control Systems Session chair: Muhammad Ashraf Room D		
11.30-13.00	Guoxi Xu, Xiaoran Gong	6 *Research on the Forces of the Landing Stage of Recoverable Rockets Based on Machine Learning Methods*
	Dan Zhu, Yang Jiang	230 *Thruster Fault Diagnosis in Autonomous Underwater Vehicle Based on Bayesian network*
	Duc Tran Minh, Phuoc Vo Tan	257 *Flatness-Based Single Tank Water Level Control Under Actuator Constraint*
	An Truong-Duc-Duy, Phuoc Vo Tan	258 *A Python Framework for Model-Based Design, Commission and Monitor the Thermal Process*
	Chen Zheng, Looi, Danny Wee Kiat, Ng	370 *A Study on the Effect of Parameters for ROS Motion Planer and Navigation System for the Navigation of an Indoor Robot*
	Kadda Mostefaoui, Youcef Dahmani, Bendaoud Mebarek, Mohamed Goucem	368 *Using NN-DEVS approach for modelling and simulation of imperfect systems: Application to the reactive navigation of Autonomous Robot*
		

PARALLEL SESSIONS 6

Parallel Session 6A: Neural Networks, Deep Learning, and Intelligent Systems Session chair: Muhammad Arif Khan Room A		
13:30-15.15	**Sulayman Ahmed**, Mondher Frikha, Taha Darwassh Hanawy Hussein, Javad Rahebi	**360** *Face Recognition System using Histograms of Oriented Gradients and Convolutional Neural Network based on with Particle Swarm Optimization*
	Aleksey Zelenov, Vladimir Krylov	**365** *Deep active inference in control tasks*
	Alexander Demidovskij	**422** *Exploring Neural Turing Machines Applicability in Neural-Symbolic Decision Support Systems*
	Imral Gungor, Bulent Gursel Emiroglu, Sait Ali Uymaz, Mustafa Servet Kiran	**424** *An Application of Tree Seed Algorithm on Optimizing 50 and 100 Dimensional Numeric Functions*
	Zair Bouzidi, Abdelmalek Boudries, Mourad Amad	**443** *Enhancing Crisis Management because of Deep Learning, Big Data and Parallel Computing Environment: Survey*
	Taha Darwassh Hanawy Hussein, Mondher Frikha, Sulayman Ahmed, Javad Rahebi	**457** *Ambulance vehicle routing using BAT Algorithm*
	Dimitris Ziouzios, Nikolaos Baras, Minas Dasygenis, Constantinos Tsanaktsidis	**475** *Enhancing Technological Development Using Novel Internet of Things Solutions: The Smart-Bin Project*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



Parallel Session 6B: Power Generation and Renewable Energy Systems Session chair: Mukesh Kumar Room B		
13:30-15.15	Hanane Yatimi, **Youness Ouberri**, Rim Marah, Elhassan Aroudam, Sara Chahid	**259** *Design of an Incremental Conductance Maximum power point tracking Controller based on Automation PLC for PV Applications*
	Tonushree Dutta, Md. Tawsif Rahman Chowdhury, Anowarul Azim	**349** *Enhancement in Optical and Electrical Properties of Si and GaAs Solar Cells Using Metal-oxide Anti-reflective Coatings*
	Thiruvenkadam Srinivasan, Se-Myong Chang, In-Ho Ra	**374** *Economic Emission Dispatch with the Presence of Large Scale Wind and PV Plants Considering Valve Point Effects and Variable Demand*
	Fabliha Ahmed, Tareq Aziz	**383** *A Trajectory Sensitivity Index Based Approach to Accelerate Post-Fault Voltage Recovery in Microgrid*
	Konstantinos Fiorentzis, Alexandros Paspatis, Antonis Tsikalakis, Emmanuel Karapidakis	**386** *Utilization of Demand Side Generation in Secondary and Tertiary Reserve Mechanisms of Island Power Systems*
	Mukesh Kumar, Ram Krishan	**399** *Non-Linear Auto-Regressive Modeling based Day-ahead BESS Dispatch Strategy for Distribution Transformer Overload Management*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



Parallel Session 6C: Mixed Topics Session chair: Fatimah Zahra Ali Room C		
13:30-15.15	Irina Golub, Evgeny Boloev	208 *Determination of Losses in Distribution Networks by Smart Meter Measurements*
	Sanchari Deb	227 *A Novel Data Driven Methodology for Charging Hotspots Computation for the city of Helsinki*
	Yasir Aljumah, Syed Sohail Ahmed	234 *A Novel Approach to Get Awareness in Saudi Arabia Regarding Phishing Attacks*
	Stephan Sprenger, Andreas Funck, Jaclyn Balthasar, Torsten Lubenow	239 *Improving thermal and chemical stabilities of electronic epoxies using polysiloxane copolymers*
	Saleh K. Ahmad, Riyadh Z. Sabry, Chandima Gomes	294 *Improving the grounding system by adding bentonite to reduce the potential distribution*
	Fehmida Usmani, Ihtesham Khan, Mehek Siddiqui, Mahnoor Khan, Muhammad Bilal, M Umar Masood, Arsalan Ahmad, Muhammad Shahzad, Vittorio Curri	389 *Evaluating Cross-feature Trained Machine Learning Models for Estimating QoT of Unestablished Lightpaths*
	Suleyman Adak, Hasan Cangi, Ahmet Serdar Yilmaz	254 *Thevenin Equivalent of Solar PV Cell Model and Maximum Power Transfer*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



PLENARY SESSION 4

Plenary Session 4: Keynote Speaker Room A		
15:30-16:00	**Dr. Fazel Mohammadi**	**Title**- *Cyber-Physical Systems Security for Smart Grid Infrastructure*

PARALLEL SESSIONS 7

Parallel Session 7A: Neural Networks, Deep Learning, and Intelligent Systems Session chair: **Ahmet Anil MUNGEN** Room A		
16.00-17.45	**Zahra Soltani**, Kresten Kjaer Soerensen, John Leth, Jan Dimon Bendtsen	**214** *Robustness analysis of PCA-SVM model used for fault detection in supermarket refrigeration systems*
	Fatima Zahra EL bouni, Tareq EL hariri, **Chaime Zouitni**, Ilham Ben Bahya, Hafida EL aboui, Aziza EL Ouaazizi	**218** *Bird Image Recognition And Classification Using IBM Cloud And Cnn*
	Fahad Radhi Alharbi, Denes Csala	**219** *Short-Term Solar Irradiance Forecasting Model Based on Bidirectional Long Short-Term Memory Deep Learning*
	Rafed Adnan Jaleel, Iman Mohammed Burhan, Ahlam Mohaisen Jalookh	**267** *A Proposed Model for Prediction of COVID-19 Depend on K-Nearest Neighbors Classifier: Iraq Case Study*
	Ahmet Anil MUNGEN, Iclal CETIN TAS	**285** *An Investigation about Traffic Prediction by Using ANN and SVM Algorithms*
	Ashhadul Islam, Samir Brahim Belhaouari	**353** *Class Aware Auto Encoders for Better Feature Extraction*
	Mazhar B Tayel, **Ahmed F. Kishk**	**320** *Proposed Deep Learning Classification and Ultra-Wide Band Tensors for Localization of Breast Tumor*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



Parallel Session 7B: Mixed Topics Session chair: **Beatriz Batista Cardoso** Room B		
16.00-17.45	**Roman Volianskyi**, Vitaliy Kuznetsov, Valeriy Kuznetsov, Oleksandr Ostapchuk, Viktor Artemchuk, Nina Volianska	**129** *Modeling of Dynamical Objects with Hypercomplex Numbers for Railway Non Traction Consumers with Renewable Energy Sources*
	Oleksiy Bobrov, Valeriy Kuznetsov, Oleksandr Romanovskyi, Dmytro Tsyplenkov, **Vitaliy Kuznetsov**, Oleksandr Ostapchuk, Petro Hubskyi	**130** *Optimum parameters of electromechanical system model "electrical grid-drive-compressor-pneumatic network"*
	Vasyl Stopkin, Valeriy Kuznetsov, **Vitaliy Kuznetsov**, Anatolliy Nikolenko, Mykola Babyak, Petro Hubskyi	**135** *Model of Two-Mass Electric Drive of DC Electric Locomotive with the Full Order Observer*
	Beatriz Batista Cardoso, Leticia Lagni Dagnese, Marcos Aurelio Izumida Martins, Kleber Duarte Tomaz, Silvia de Francisci	**144** *The use of GPR technologies for utility mapping in underground distribution grid conversion – Brazil use case*
	Daniel Hufnal, **Theodore Johnson**, Caglar Yilderim, Damian Schofield	**271** *Impact of VR and Desktop Gaming on Electroencephalogram (EEG) Ratings*
	Eluwumi Buraimoh, Ritesh Ajoodha, Kershree Padayachee	**280** *Importance of Data Re-sampling and Dimensionality Reduction in Predicting Student's Success*
	Mohamed Elsakhawy, Michael Bauer	**30** *Performance Analysis of Serverless Execution Environments*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

Parallel Session 7C: Mixed Topics Session chair: Tiago Sutili Room C		
16.00-17.45	**Hasneen Zaman**, Narottam Das	**342** *Analysis for the Improvement of IEC 61850 Based Substation Communications Using OPNET*
	Nael hussein, Kamaruzzaman Seman, Fitri Maya Puspita, Khairi Abdul Rahim, Mus'ab Sahrim	**412** *Improved Model of Internet Pricing Incentive Mechanism based on Multi bottleneck Links in Multi QoS Networks*
	Savio S.H. Tse, Ming-Chyuan Low	**464** *Online Searching for 3-Dimensional Data in Sublinear Time*
	Shahzad Alam, Muhammad Umar Masood, **Ihtesham Khan**, Arsalan Ahmad, Salman Ghafoor, Vittorio Curri	**405** *Modeling Off-line Routing and Spectrum Allocation Problem in Elastic Optical Network*
	Lorant Andras Szolga, **Mihai Boca**	**438** *LED Display for Timetables Controlled by IoT*
	Lubabalo Buwa, Zelalem Shibeshi, Alferdo Terzoli	**460** *An application to support end-users of wi-fi hotspots in the township of Makhanda*
	Tiago Sutili, Pedro Ferreira Pinto Neto, Fabio Donati Simoes, Sandro Marcelo Rossi, Gabriel Junco Suzigan, Rafael Carvalho Figueiredo	**338** *Unrepeatered Optical Systems Design based on Iterative Channel Pre-Emphasis Optimization*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

PARALLEL SESSIONS 8

Parallel Session 8A: Antennas, Propagation and Radar Systems Session chair: Smrity Dwivedi Room A		
18.00-19.45	Utkarsh Gupta, **Smrity Dwivedi**	**181** *Frequency Reconfigurable Antenna UsingMetamaterial Split Ring Resonators for Smart Applications*
	Kaushallya Adhikari, **Tyler Trosclair**	**203** *Minimum Norm Method for Linear and Planar Sparse Arrays*
	M. Asfar Saeed, Umaima Ahmed	**301** *Rectangular loop mm-Wave antenna for wearable applications*
	Nurhaifa Alya Roslan, Anis Afrina Amiruddin, Ezri Mohd, **Noorsaliza Abdullah**	**315** *Complementary Folded Arm (CFA) Split Ring Resonator for Dielectric Material Characterization*
	Solomon Mingle	**446** *Frequency Scannable Leaky-Wave Antenna Design for Remote Vital Signs Radar Application at 60 GHz Band*
	Mounia Djoudi, Mohamed Lamine Tounsi, Noureddine Ababou, Mustapha C.E. Yagoub	**462** *Analysis of Electromagnetic Properties of EBG Structures for Directional Planar Antennas*
BREAKFAST / LUNCH / DINNER/TEA BREAK		



Parallel Session 8B: Signal and Image Processing Techniques Session chair: Daniel Sartori Room B		
18.00-19.45	**Iyad F. Jafar**, Khalid A. Darabkh	**76** *An Improved Reversible Data Hiding Algorithm for Image Contrast Enhancement*
	Giuseppe Bonifazi, Giuseppe Capobianco, **Riccardo Gasbarrone**, Silvia Serranti	**15** *Cold chain maintenance evaluation of pre-cooked pasta by Visible and Short Wave InfraRed Spectroscopy*
	Harmandeep Singh Gill, Baljit Singh Khehra	**139** *Minimum cross Entropy Thresholding based apple image segmentation using Teacher Learner Based Optimization Algorithm*
	Bilal Djmal Eddine Cherif, Azeddine Bendiabdellah, Sara Seninete	**255** *Induction Motor Diagnosis with Broken Rotor Bar Faults Using DWT Technique*
	Muhammad Salman Kabir, Ikechi Kalu Ndukwe, Engr. Zainab Shahid Awan	**391** *Deep Learning Inspired Vision based Frameworks for Drone Detection*
	Saman Saadizadeh	**417** *Breast Cancer Detection in Thermal Images Using GLRLM Algorithm*
	Daniel Sartori, Kaushallya Adhikari	**245** *Product Processing for Tapered Sparse Arrays*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

Parallel Session 8C: Wireless Communication Systems and Technologies Session chair: Aleem Khaliq Room C		
	Augustine O. Nwajana, Eugene A. Ogbodo, Ifueko I. Imasuen	81 *Formulation for Energy Distribution in T-Junctions for Diplexer Design*
	Eugene A. Ogbodo, Augustine O. Nwajana	84 *A Bandpass Filter Using Edge Coupled and Direct Coupled Techniques*
18.00-19.45	Arian Nowbahari, Luca Marchetti, Mehdi Azadmehr	246 *A Delay-Based Wake-Up Receiver for Wireless Sensor Networks*
	Fadi Elghitani, Eman Serag, Ibrahim Fayed	357 *WiFi Performance Estimation for Voice Services*
	Feriel Guidoum, Mohamed Lamine Tounsi, Tan-Phu Voung, Noureddine Ababou, Mustapha C.E. Yagoub	366 *Design of FSS Filter for 5G applications*
	Nyandika, Kimwele, Okeyo	388 *Handover Enhancement in wireless communication-Based Train Control System*
	Mikko Vehkapera, Mika Hoppari, Jani Suomalainen, Jussi Roivainen, Seppo J. Rantala	397 *Testbed for Local-Area Private Network with Satellite-Terrestrial Backhauling*
BREAKFAST / LUNCH / DINNER/TEA BREAK 		

CLOSING SESSION

Session 00: Closing Session – Closing Remarks by Conference Chairs Room A	
20:00-20:30	Prof. Dr. Mardeni Bin Roslee, Multimedia University, Malaysia Dr. Yunus UZUN, Aksaray University, Turkey Dr. Shafqat Ullah Khan, University of Buner, Pakistan Dr. Athar Waseem, International Islamic University, Pakistan

Hope to see you "physically" next time

Upcoming Conference

Please note that IEEE Approved 7th International Conference on Engineering and Emerging Technologies - ICEET 2021 (www.iceet.net) will take place in Istanbul, Turkey. on 27-28 October, this year.

Thank you very much for your contributions.

