Program at Glance of the IEEE Canadian Conference on Electrical and Computer Engineering (IEEE CCECE-2020)
London, Ontario
August 30 – September 2, 2020

Date	Time	Event		
Day 1 – Sunday August 30, 2020	10:00 – 13:00	Tutorial: Biosignal-driven Models for Improved Control Tutorial: Hybrid Microfluidic CMOS Sensing Platforms for Life Science Applications		
	13:00 – 13:30	Break		
	13:30 – 15:30	Technical Sessions		
	15:30 – 16:00	Break		
	16:00 – 17:00	Technical Sessions		
Day 2 – Monday August 31, 2020	9:00 – 9:15	Opening Ceremony		
	9:15 – 10:15	Keynote Speaker: Dr. Wen Tong, Huawei Fellow		
	10:15 – 10:30	Break		
	10:30 – 12:30	Technical Sessions	Panel 1: Smart Infrastructure and Services: Are We Ready?	
	12:30 – 14:00	Break		
	14:00 – 16:00	Technical Sessions		
Day 3 – Tuesday Sept. 1, 2020	9:00 – 10:00	Keynote Speaker: Prof. Raouf Boutaba, University of Waterloo		
	10:00 – 10:30	Break		
	10:30 – 12:30	Technical Sessions	Panel 2: NSERC Updates & How to Apply for a Discovery Grant	
	12:30 – 14:00	Break		
	14:00 – 15:00	Keynote Speaker: Prof. Octavia Dobre, Memorial University		
	14:00 – 17:00	Panel 3: Technology Leadership Forum		
	15:00 – 15:15	Break		
	15:15 – 17:15	Technical Sessions	Panel 4: IEEE Women in Engineering	
Day 4 – Wed Sept. 2, 2020	9:00 – 10:00	Keynote Speaker: Dr. Maike Luiken, IEEE Canada President 2018-2019		
	10:00 – 10:30	Break	10:00 – 11:50	IoT Connect
	10:30 – 12:30	Technical Sessions		
	12:30 – 14:00	Break	12:00 – 14:00	IEEE Canada Awards Gala 2020
	14:00 – 16:00	Technical Sessions		
	16:00 – 16:30	Closing Ceremony		

Technical Program of the IEEE Canadian Conference on Electrical and Computer Engineering (CCECE-2020)

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<table>
<tr><th colspan="3">Day 1 – Sunday August 30, 2020</th></tr>
<tr><th>Time</th><th colspan="2">Event</th></tr>
<tr><td>10:00 – 13:00</td><td>Tutorial
Title: Biosignal-driven Models for Improved Control
Presenters:
Dr. Michael Naish, Dr. Yue Zhou
Mr. Anas Ibrahim, Ms. Parisa Daemi
Dr. Tyler Desplenter, Dr. Ana Luisa Trejos</td><td>Tutorial
Title: Hybrid Microfluidic CMOS Sensing Platforms for Life Science Applications
Presenters:
Dr. Ebrahim Ghafar-Zadeh
Dr. Sebastian Magierowski</td></tr>
<tr><td>13:00 – 13:30</td><td colspan="2">Break</td></tr>
<tr><td>13:30 – 15:30
(Parallel Session-1)</td><td colspan="2">Session Title: (AI-1) Applications of AI in Electrical and Computer Engineering

1. Hybridizing UFO with Other ML Tools to Locate Faults by Just Knowing Relay Operating Times: Ali R. Al-Roomi and Mohamed E. El-Hawary (Dalhousie University, Canada)
2. EP-FPG Applied to RSSI-Based Wireless Indoor Localization: Mengze Li and Thiago Eustaquio Alves de Oliveira (Lakehead University, Canada)
3. Speech Emotion Recognition Using Convolutional Recurrent Neural Networks and Spectrograms: Mustafa Qamhan (King Saud University, Saudi Arabia); Ali H. Meftah (King Saud Universty & College of Computer and Information Sciences, Saudi Arabia); Sid-Ahmed Selouani (Université de Moncton, Campus de Shippagan, Canada); Yousef A Alotaibi and Mohammed Zakariah (King Saud University, Saudi Arabia); Yasser M Seddiq (King Abdulaziz City for Science and Technology (KACST) & King Saud University, Saudi Arabia)
4. Eucalyptus Volume Estimation for Eucalyptus Clones Trees Using Artificial Neural Networks: Welington Galvão Rodrigues (Universidade Federal de Goiás, Brazil); Christian D. Cabacinha (Universidade Federal de Minas Gerais, Brazil); Rogerio Salvini (Universidade Federal de Goiás, Brazil); Gabriel Vieira (Federal Institute Goiano, Brazil); Deborah S. A. Fernandes (Universidade Federal de Goias, Brazil); Fabrizzio Soares (Universidade Federal de Goiás, Brazil & Southern Oregon University, USA)
5. Computational Intelligence Platform for Hydrothermal Power System Auction Models: Fabiano S Carvalho (Universidade Federal de Goiás, Brazil); Juliana Félix (Universidade Federal de Goiás, USA); Gelson Cruz Jr. (Universidade Federal de Goiás, Brazil); Fabrizzio Soares (Universidade Federal de Goiás, Brazil & Southern Oregon University, USA)
6. Parkinson's Tremor Onset Detection and Active Tremor Classification Using a Multilayer Perceptron: Anas Ibrahim and Yue Zhou (Western University, Canada); Mary Jenkins (London Health Sciences Centre, Canada); Michael D Naish and Ana Luisa Trejos (Western University, Canada)</td></tr>
</table>

	7. Gaussian Process Regression Based Model for Prediction of Discharge Voltage of Air Gaps Under Positive Polarity Lightning Impulse Voltages: *Vidya M S and Sunitha K. (National Institute of Technology Calicut, India); Deepa Kumar (College of Engineering Trivandrum & Powergrid Corporation of India Ltd, India); Deepak Mishra (IIST, India); Ashok S (NIT Calicut, Kerala, India)* 8. Predicting the Demand in Bitcoin Using Data Charts: A Convolutional Neural Networks Prediction Model: *Ahmed Fakhri Ibrahim (University of Waterloo, Canada), Liam Corrigan (IVEY Business School), Rasha Kashef (Ryerson University, Canada)*
13:30 – 15:30 *(Parallel Session-2)*	***Session Title:*** *(BBA-1) Bioengineering & Biomedical Apps* 1. Agent-Based Model of Cell Signaling in Cancer*: Youcef Derbal (Ryerson University, Canada)* 2. Extraction of Fetal ECG Signal with Ectopic Beats Using Blind Source Separation Based Null Space Approach: *Luay Yassin Taha (University of Windsor & Electrical and Computer Engineering, Canada); Esam Abdel-Raheem (University of Windsor, Canada)* 3. Automatic QRS Detection and Segmentation Using Short Time Fourier Transform and Feature Fusion: *Abdullah Biran (McMasterUniversity, Canada & King Faisal University, Saudi Arabia); Aleksandar Jeremic (McMaster University, Canada)* 4. Explainable Deep Learning for Referable Diabetic Retinopathy: *Mohamed Chetoui and Andy Couturier (Université de Moncton, Canada); Moulay A. Akhloufi (University of Moncton & University Laval, Canada)* **5.** Determination of SWIR Features for Noninvasive Glucose Monitoring Using Machine Learning: *Khoa H. D. Nguyen, Anh Dinh and Francis M. Bui (University of Saskatchewan, Canada)* 6. General Framework for Multi-Classification of EEG Signals Based on Multi-Scale Properties: *Salim Lahmiri (Concordia University, Canada)* **7.** Explainable AI in Decision Support Systems A Case Study: Predicting Hospital Readmission Within 30 Days of Discharge: *Alexander Vucenovic (Erie St. Clair Local Health Integration Network, Canada), Osama Ali (University of Western Ontario, Canada), Clifford Ekwempe (Erie St. Clair Local Health Integration Network, Canada), Ozgur Eren (Erie St. Clair Local Health Integration Network, Canada)*
13:30 – 15:30 *(Parallel Session-3)*	***Session Title:*** *(CDS-1) Circuits, Devices, and Systems* 1. Stagger Tuning for BW Extension in Transimpedance Amplifiers*: Omidreza Ghasemi (Concordia University, Canada)* 2. Placement with Sequence-Pair-Driven TCG for Advanced Analog Constraints: *Lian He and Zhenxin Zhao (Memorial University, Canada); Yuanzhu Chen and Lihong Zhang (Memorial University of Newfoundland, Canada)* 3. An Energy Harvesting Solution for IoT Devices in 5G Networks: *Maryam Eshaghi and Rashid Rashidzadeh (University of Windsor, Canada)* 4. Performance Analysis of Squarely Packed Dimorphic MWCNT Bundle for High Speed VLSI Interconnect: *Abu Bony Amin (Florida Polytechnic University, USA); Muhammad Sana Ullah (Florida Polytechnic University & University of Missouri-Kansas City, USA)* 5. Learning-Based Reconfigurable Cache for Heterogeneous Chip Multiprocessors: *Furat Al-Obaidy, Arghavan Asad and Farah Mohammadi (Ryerson University, Canada)* 6. Low Power Data Acquisition System for Noise Pollution Monitoring: *Mark Lipski, Matthew D James, Petros Spachos and Stefano Gregori (University of Guelph, Canada)*
15:30 – 16:00	**Break**
16:00 – 17:00 *(Parallel Session-1)*	***Session Title:*** *(PEES-1) Power Electronics & Energy Systems*

	1. Fault Detection and Localization in a Ring Bus DC Microgrid Using Current Derivatives*: Yunfei Bai and Athula Rajapakse (University of Manitoba, Canada)* 2. Grid-Connected Low-Voltage Power Supply to Equipment on Transmission Line Structures: *Hamed Ahmadi (BC Hydro & University of British Columbia, Canada); Mazana Armstrong (Powertech Labs Inc, Canada)* 3. Artificial Neural Network Based Improved Modulation Strategy for GaN-based Inverter in EV: *Soumava Bhattacharjee, Sukanta Halder and Animesh Kundu (University of Windsor, Canada); Lakshmi Varaha Iyer (Magna International Inc., USA); Narayan Kar (University of Windsor, Canada)* 4. Understanding Cyber-physical Resilience from A Power System Perspective: *Nancy Mohamed and Magdy Salama (University of Waterloo, Canada)*
16:00 – 17:00 *(Parallel Session-2)*	***Session Title:*** *(MCV-1) Machine & Computer Vision* 1. Implementation Simple Fitting System Using Image Recognition for Portable Device: *Hsin-Yu Huang, Yong-Yi Fanjiang, Ting Hsuan Lee, Chia An Lee, Tzu Min Zhang and Wei De Li (Fu Jen Catholic University, Taiwan)* 2. Real-time Road Cracks Detection Based on Improved Deep Convolutional Neural Network: *Syed Ali Hassan (Kumoh National Institute of Technology, Korea (South)), SeungHeon Han (Kumoh National Institute of Technology, Korea (South)), Soo Young Shin (Kumoh National Institute of Technology, Korea (South))* 3. Multimodality Weight and Score Fusion for SLAM: *Thangarajah Akilan (University of Windsor, Canada); Edna Johnson, Gaurav Taluja, Japneet Sandhu and Ritika Chadha (University of Lakehead, Canada)* 4. CloudMach: Cloud Computing Application Performance Improvement Through Machine Learning: *Mohamed Abu Sharkh, Yong Xu and Eric Leyder (Ferris State University, USA)* 5. A Cloud-Based Architecture for Automated Grading of Computer-Aided Design Student Work Using Deep Learning: *Maysa Faroun Khaleel (Jordan University of Science and Technology, Jordan); Mohamed Abu Sharkh (Ferris State University, USA); Mohamad Kalil (IBM, Canada)*

Day 2 – Monday August 31, 2020	
Time	**Event**
9:00 – 9:15	Opening Ceremony
9:15 – 10:15	***Keynote Speaker 1:*** Dr. Wen Tong, Huawei CT ***Title:*** 6G the next technology horizon
10:15 – 10:30	**Break**
10:30 – 12:30	***Panel Session 1:*** *Smart Infrastructure and Services: Are We Ready?* ***Moderator:*** Dr. Anwar Haque, Western University ***Panelists:*** Dr. Wen Tong (Huawei), Dr. Greg Sidebottom (Juniper Networks), Dr. Amir Sayegh (Geotab), Mr. Ali Khwaja (IBM Canada), and Dr. Abdallah Shami (Data Infusion Intelligence)
10:30 – 12:30 *(Parallel Session-1)*	***Session Title:*** *(AI-2) Applications of AI in Electrical and Computer Engineering* 1. A New Statistical Method for Anomaly Detection in Distributed Systems: *Bamdad Vafaie (UOIT, Canada); Mahbobe Shamsi (Supervisor, Iran); Morteza Javan (Amirkabir University of Technology, Iran); Khalil El-Khatib (University of Ontario Institute of Technology, Canada)* 2. ANN-supervised Operation Mode Selection for Microturbine Distributed Generator: *M. Hamouda (University of Waterloo, Canada); Mostafa I. Marei (Ain Shams University & Faculty of Engineering, Egypt); Mohmmed Nassar and Magdy Salama (University of Waterloo, Canada)* 3. Self-learning for Day-night Mode Energy Strategy for Solar Powered Environmental WSN Nodes: *Michal Prauzek (VSB - Technical Universty of Ostrava, Czech Republic); Jaromir Konecny and Jakub Hlavica (VSB - Technical University of Ostrava, Czech Republic); Petr Musilek (University of Alberta, Canada)* 4. Ensemble-based Feature Selection and Classification Model for DNS Typo-squatting Detection: *Abdallah Moubayed (University of Western Ontario, Canada); Emad Ali Aqeeli (Yanbu University College & Royal Commission in Yanbu, Saudi Arabia); Abdallah Shami (Western University, Canada)* 5. Novel Casestudy and Benchmarking of AlexNet for Edge AI: From CPU and GPU to FPGA: *Firas Al-Ali (Senior Lecturer, Manukau Institute of Technology, New Zealand); Thilina Gamage and Hewa Nanayakkara (Student, Manukau Institute of Technology, New Zealand); Farhad Mehdipour (Otago Polytechnic - Auckland International Campus, New Zealand); Sayan Kumar Ray (Manukau Institute of Technology, New Zealand)* 6. A Deep Learning Approach to Predict Weather Data Using Cascaded LSTM Network*: Zarif Al Sadeque and Francis M. Bui (University of Saskatchewan, Canada)* **7.** Low-Power Low-Cost Audio Front-End for Keyword Spotting: *Daljit Josh, John-Anthony Elenis, Heman Muresan, Petros Spachos and Stefano Gregori (University of Guelph, Canada)* 8. Partially Observable Markov Decision Processes for Fault Management in Autonomous Underwater Vehicles: *Kathleen A Svendsen (Dalhousie University & Lloyd's Register ATG, Canada); Mae Seto (Dalhousie University, Canada)*
10:30 – 12:30 *(Parallel Session-2)*	***Session Title:*** *(CN-1) Communications and Networking* 1. Dynamic Satisfactory Power Control for Multi-Class Ultra Dense 5G and Beyond: *Sami Abdelaaziz Nadif (Hassan I University of Settat, Morocco); Halima Elbiaze (University of Quebec at Montreal, Canada); Essaid Sabir (ENSEM, Hassan II University of Casablanca, Morocco); Abdelkrim Haqiq (Hassan 1st University, Settat, Morocco)* 2. A Cooperative Spectrum Sensing Architecture and Algorithm for Cloud- And Big Data-based Cognitive Radio Networks: *Victor Balogun (University of Winnipeg, Canada); Oluwafemi Sarumi (The Federal University of Technology Akure, Nigeria & University of Manitoba, Canada)*

	3. Content Delivery Networks - Q-Learning Approach for Optimization of the Network Cost and the Cache Hit Ratio: *Diego Felix de Almeida, Jason Yen and Michal Aibin (British Columbia Institute of Technology, Canada)* 4. Combined Latency-Aware and Resource-Effective Virtual Network Function Placement: *Wissal Attaoui (Hassan II University of Casablanca, Morocco); Essaid Sabir (ENSEM, Hassan II University of Casablanca, Morocco); Halima Elbiaze (University of Quebec at Montreal, Canada)* 5. EEDOR: An Energy Efficient Depth-Based Opportunistic Routing Protocol for UWSNs: *Rogaia Mhemed (Dalhousie University, Canada); Frank D Comeau (St. Francis Xavier University, Canada); William Phillips (Dalhousie University, Canada); Nauman Aslam (Northumbria University, United Kingdom (Great Britain)* 6. Supporting Delay-Sensitive IoT Applications: *A Machine Learning Approach: Ali Alnoman (Sheridan College, Canada)* 7. Scalable Path Computation Element (SPCE): *Hamid Hajaje (University Mohammed V, Morocco); Zine elabidine Guennoun (Mohamed V University, Morocco); Junaid Israr and Mouhcine Guennoun (University of Ottawa, Canada)* 8. Deploying an OFDM Physical Layer Security with High Rate Data for 5G Wireless Networks: *Saeed Komeylian (Sharif University, Iran); Somayeh Komeylian and Farah Mohammadi (Ryerson University, Canada* 9. Deep Reinforcement Learning Algorithm for Smart Data Compression Under NOMA Uplink Protocol: *Mohamed Elsayed (Qatar University), Ahmed Badawy (Politecnico di Torino), Ahmed El Shafie, Qualcomm Inc., Amr Mohamed (Qatar University), Tamer Khattab (Qatar University)*
10:30 – 12:30 *(Parallel Session-3)*	***Session Title:*** *(CSE-1) Computer and Software Engineering* 1. Smart Home Networks: Security Perspective and ML-based DDoS Detection: *Yaser Al Mtawa (University of Western Ontario, Canada); Harsimranjit Singh (Western University, Canada); Anwar Haque (Western Ontario, Canada); Ahmed Refaey (Manhattan College, USA & Western University, Canada)* 2. Design and Implementation of an Intelligent System to Translate Arabic Text into Arabic Sign Language: *Tariq Jamil (Sultan Qaboos University, Oman)* 3. Dynamic Group Trip Planning Queries in Spatial Databases: *Farhana Aklam and Wendy K Osborn (University of Lethbridge, Canada)* 4. Software Effort Estimation from Use Case Diagrams Using Nonlinear Regression Analysis: *Ali Bou Nassif and Manar AbuTalib (University of Sharjah, United Arab Emirates); Luiz F. Capretz (University of Western Ontario, Canada)* 5. Integrated Control of Multiple Data Centre Cooling Units: *Shirin Mozaffari, Ghada Badawy and Douglas Down (McMaster University, Canada)* 6. Improved Asymmetric Time-varying Coefficient of Particle Swarm Optimization: *Mohammad Al-Shabi, Chaouki Ghenai and Maamar Bettayeb (University of Sharjah, United Arab Emirates)*
12:30 – 14:00	**Break**
14:00 – 16:00 *(Parallel Session-1)*	***Session Title:*** *(CR-1) Control and Robotics* 1. ManitobaSat-1: Space Systems Engineering for Student Training: *Jaime Campos (University of Manitoba, Canada); Philip A Ferguson (University of Manitoba & NSERC / CSA / Magellan Aerospace Industrial Research Chair in Satellite Engineering, Canada)* 2. Tracking Control of Force, Position, and Contour for an Excavator with Co-simulation: *Niraj Reginald, Jaho Seo and Abdullah Rasul (OntarioTech University, Canada)* 3. Discussion on Accuracy of Approximation with Smooth Fuzzy Models: *Ebrahim Navid Sadjadi (Carlos III of Madrid & Tehran Polytechnic University, Spain)*

	4. Robotic Sanding of Wooden Bowls with Hybrid Force/Position Impedance Control: *Srijith Sudhagar, Brian Surgenor and Keyvan Hashtrudi-Zaad (Queen's University, Canada)* 5. Stability Analysis of Smooth Positive Fuzzy Systems: *Ebrahim Navid Sadjadi (Carlos III of Madrid & Tehran Polytechnic University, Spain); Mohammad Bagher Menhaj (Amir Kabir University of Technology, Iran); Danial Sadrian Zadeh (University of Tehran, Iran); Behzad Moshiri (University of Tehran & University of Waterloo, Iran)* 6. Hand Gesture-Based Control of a Front-End Loader: *Johann von Tiesenhausen, Unal Artan, Joshua Marshall and Qingguo Li (Queen's University, Canada)*
14:00 – 16:00 *(Parallel Session-2)*	***Session Title:*** *(CN-2) Communications and Networking* 1. Real-world Applications of Mobile Learning Tools in Engineering: Prospects, Hindrances and Accessibility in Conjunction with Scholastic Views: *Samuel Eneje (Lancaster University, Canada & Technology Enhanced Learning, United Kingdom (Great Britain)* 2. Towards Smart Trust Management of VANETs: *Rasha Atwah, Paola Flocchini and Amiya Nayak (University of Ottawa, Canada)* 3. Machine Learning-Based Task Clustering for Enhanced Virtual Machine Utilization in Edge Computing: *Ali Alnoman (Sheridan College, Canada)* 4. Energy Consumption Reduction of the Spectrally-Spatiable Flexible Optical Networks Based on the Energy Savings Algorithm: *Joseph Gotengco, Justin Tran, Jason Soukchamroeun, Diego Felix de Almeida and Michal Aibin (British Columbia Institute of Technology, Canada)* 5. Wireless Sensor Network Location Prediction Based on Machine Learning Techniques: *Furat Al-Obaidy, Najmeh Razfar and Farah Mohammadi (Ryerson University, Canada); Peyman Moeini (Peytec Inc., Canada)* 6. User Association in Coexisting RF and TeraHertz Networks in 6G: *Noha Hassan (Ryerson University, Canada); Md Tanvir Hossan and Hina Tabassum (York University, Canada)*
14:00 – 16:00 *(Parallel Session-3)*	***Session Title:*** *(CSE-2) Computer and Software Engineering* 1. PMTRU: An Efficient and Resistant Variant of the NTRU Public Key Cryptosystem: *Hamid Hajaje (University Mohammed V, Morocco); Zine elabidine Guennoun (Mohamed V University, Morocco); Mouhcine Guennoun (University of Ottawa, Canada)* 2. ES2ISL: An Advancement in Speech to Sign Language Translation Using 3D Avatar Animator: *Bhavinkumar Patel and Harshit Balvantrai Patel (Lakehead Univ, Canada); Manthan Khanvilkar (Lakehead University, Canada); Nidhi Rajendrakumar Patel (Lakehead Univ, Canada); Thangarajah Akilan (University of Windsor, Canada)* 3. Geo-Spatial Data Visualization and Critical Metrics Predictions for Canadian Elections: *Mohammad Abdul Hadi and Fatemeh Fard (University of British Columbia, Canada); Irene Vrbik (University of British Columbia Okanagan, Canada)* 4. FPGA-Based Evaluation and Implementation of an Automotive RADAR Signal Processing System Using High-Level Synthesis: *Mohammed Khalid (University of Windsor, Canada)* 5. Accelerated Hardware Implementation of BLAKE2 Cryptographic Hash for Blockchain: *Ahmed Refaey (Manhattan College, USA & Western University, Canada); Sebastian Magierowski, Sumaia Atiwa and Yunus Dawji (York University, Canada)*

Day 3 – Tuesday September 1, 2020	
Time	**Event**
7:30 – 9:00	Registration & Breakfast
9:00 – 10:00	***Keynote Speaker 2:*** *Prof. Raouf Boutaba, University of Waterloo*
10:00 – 10:30	**Break**
10:30 – 12:30	***Panel Session 2:*** *NSERC Updates & How to Apply for a Discovery Grant* ***Moderators****:* Firouz Badrkhani Ajaei ***Panelists:*** Felix Moore (Discovery Grant Program Officer), Flora Marguerite (Discovery Grant Program Office), Patrick Suter, Program Officer - Alliance Grant
10:30 – 12:30 *(Parallel Session-1)*	***Session Title:*** *(MCV-2) Machine & Computer Vision* 1. Application of Saliency Methods for Extracting Tree Features in Outdoor Scenes: *Gabriel Vieira (Federal Institute Goiano, Brazil); Naiane Sousa (Universidade Federal de Goias, Brazil); Juliana Félix (Universidade Federal de Goiás, USA); Junio Lima (Instituto Federal Goiano, Brazil); Fabrizzio Soares (Universidade Federal de Goiás, Brazil & Southern Oregon University, USA)* 2. Performance Evaluation of Pre-Trained CNN Models for Visual Saliency Prediction: *Bashir Muftah Ghariba (Memorial University of Newfoundland, Canada & Faculty of Engineering, Elemergib University, Khoms, Libya); Mohamed S Shehata (University of British Columbia & Memorial University, Canada); Peter McGuire (C-Core, Canada)* 3. Conditional Probabilistic Relative Visual Localization for Unmanned Aerial Vehicles: *Andy Couturier (Université de Moncton, Canada); Moulay A. Akhloufi (University of Moncton & University Laval, Canada)* 4. MODSiam: Moving Object Detection Using Siamese Networks: *Islam I Osman (University of British Columbia, Canada); Mohamed S Shehata (University of British Columbia & Memorial University, Canada)* 5. Machine Learning Towards Enabling Spectrum-As-a-Service Dynamic Sharing: *Abdallah Moubayed (University of Western Ontario, Canada); Tanveer Ahmed (Nordicity, Canada); Anwar Haque (Western Ontario, Canada); Abdallah Shami (Western University, Canada)*
10:30 – 12:30 *(Parallel Session-2)*	***Session Title:*** *(PEES-2) Power Electronics & Energy Systems* 1. M-Model: A New Precise Medium-Length Transmission Line Model: *Ali R. Al-Roomi and Mohamed E. El-Hawary (Dalhousie University, Canada)* 2. Induction Motor Fault Diagnosis Using Graph-Based Semi-Supervised Learning: *Shafi Md Kawsar Zaman (Memorial University of Newfoundland, Canada); Xiaodong Liang (University of Saskatchewan, Canada); Lihong Zhang (Memorial University of Newfoundland, Canada)* 3. A DFFT and Coherence Analysis-Based Fault Diagnosis Approach for Induction Motors Fed by Variable Frequency Drives: *Md Nasmus Sakib Khan Shabbir (Memorial University of Newfoundland, Canada); Xiaodong Liang (University of Saskatchewan, Canada)* 4. Mathematical Schemes to Linearize Operating Times of Overcurrent Relays by Sequentially Fixing Plug Settings and Time Multiplier Settings: *Ali R. Al-Roomi and Mohamed E. El-Hawary (Dalhousie University, Canada)* 5. Using a Low Power MCU to Control Operation Frequency to Increase DC-DC Buck Converter Efficiency in the Light Load: *Y. W. Bai and Shu-Jung Lin (Fu Jen Catholic University, Taiwan)* 6. Demand Charges Minimization for Ontario Class-A Customers Based on the Optimization of Energy Storage System: *Abdeslem Kadri and Farah Mohammadi (Ryerson University, Canada)* 7. Primary Frequency Control in Islanded Microgrids Using a Novel Smart Load: *Javad Khodabakhsh and Ebrahim Mohammadi (Western University, Canada); Gerry Moschopoulos (University of Western Ontario, Canada)*

10:30 – 12:30 *(Parallel Session-3)*	***Session Title:*** *(SE-1) Sustainable Energy* 1. Effect of Varying Threshold Voltage on Efficiency of CMOS Rectifiers for Piezoelectric Energy Harvesting Applications: *Xingwen Li (University of Toronto, Canada); Seyed Nabavi and Lihong Zhang (Memorial University of Newfoundland, Canada)* 2. DC and AC Voltage Investigation in Isolated and Grid-connected Hybrid Microgrid: *Mouhamadou Thiam (Ecole Polytechnique de Thiès); Sengthavy Phommixay (Université du Québec à Trois-Rivières, Canada); Moustapha Diop (Ecole Supérieure Polytechnique de Dakar); Mamadou Lamine Doumbia (Université du Québec à Trois-Rivières); Mamadou Wade (Ecole Polytechnique de Thiès, Senegal)* 3. A Study on the Performance of PV Modules in Snowy Conditions Considering Orientation of Modules: *Ebrahim Mohammadi and Javad Khodabakhsh (Western University, Canada); Gerry Moschopoulos (University of Western Ontario, Canada); Roohollah Fadaeinedjad (Gaduate University of Advanced Technology, Iran)* 4. Data Driven Approach for Reduced Value at Risk Forecasts in Renewable Power Supply Systems: *Behrouz Banitalebi, Srimantoorao Appadoo and Aerambamoorthy Thavaneswaran (University of Manitoba, Canada)* 5. Optimal Demand Control of Electric Water Heaters to Accommodate the Integration of Plug-in Electric Vehicles in Residential Distribution Networks: *Majid Moradzadeh and Morad Abdelaziz (University of British Columbia, Canada)* 6. Site Selection Criteria for Battery Energy Storage in Power Systems: *Zeenat Hameed and Seyedmostafa Hashemi (Technical University Denmark, Denmark); Chresten Trœholt (Denmark)* 7. Voltage Stability Constrained Low-Carbon Generation & Transmission Expansion Planning: *Vahid Asgharian (The University of British Columbia, Canada); Morad Abdelaziz (University of British Columbia, Canada)*
10:30 – 12:30 *(Parallel Session-4)*	***Session Title:*** *(Edu) Special session on Computer and Engineering education* 1. How Experts in Higher Education Level Evaluate Journals on Fuzzy and Intelligent Systems?: *Ebrahim Navid Sadjadi (Carlos III of Madrid & Tehran Polytechnic University, Spain)* 2. Expanding Cybersecurity Knowledge Through an Indigenous Lens: A First Look: *Farrah Huntinghawk (Brandon University, Canada), Candace Richard (Brandon University, Canada), Sarah Plosker (Brandon University, Canada), Gautam Srivastava (Brandon University & China Medical University, Canada)* 3. PETA-System - A Piano Expression Teaching Aid System: *Thyago Carvalho (Federal University of Goias, Brazil), Carlos Henrique Costa (Universidade Federal de Goias, Brazil), Jaline Mombach (University of Goias, Brazil), Cristiane B. R. Ferreira (Universidade Federal de Goias, Brazil), Deborah S. A. Fernandes (Universidade Federal de Goias, Brazil), Fabrizzio Soares (Universidade Federal de Goias, Brazil & Southern Oregon University, USA)* 4. Efficient Practices on Teaching Modeling and Simulation for Engineers: *Ayman Al-khazraji (University of Bahrain, Bahrain), Salam Ismaeel (Ryerson University, Canada)* 5. Mirrored and Rotated Letters in Children Spellings: An Automatic Analysis Approach: *Jaline Mombach (University of Goias, Brazil), Cristiane B. R. Ferreira (Universidade Federal de Goias, Brazil), Juliana Felix (Universidade Federal de Goias, Brazil), Rogerio Salvini (Universidade Federal de Goias, Brazil), Fabrizzio Soares (Universidade Federal de Goias, Brazil & Southern Oregon University, USA)*
12:30 – 14:00	**Break**
14:00 – 15:00	***Keynote Speaker 3****: Prof. Octavia Dobre, Memorial University* ***Title:*** From Cognition to Intelligence in Communications Networks
14:00 – 17:00	***Panel Session 3:*** *Technology Leadership Forum*

	Moderators**:* Kexing Liu (QGenX Systems), IEEE Canada OS Committee Chair, Dale Tardiff, President, Innovative Power Solutions Inc. ***Panelists: Jean Boudreau (President, Engineers Canada), Jayson Myers (CEO, Next Generation Manufacturing Canada), Fred McMahon (Dr. Michael A. Walker Chair in Economic Freedom, Fraser Institute)
15:00 – 15:15	***Break***
15:15 – 17:15	***Panel Session 4:** IEEE Women in Engineering - Artificial Intelligence in the Real World* ***Moderator**:* Mahsa Bataghva, Researcher at Western University & Robarts Research Institute ***Panelists**:* Parinaz Sobhani (Director of Machine Learning on the Georgian Impact team), Amir Feizpour (Founder of Aggregate Intellect), Shahram Sean Yousefi (Co-Founder, President and CEO MESH Scheduling Inc.*)*
15:15 – 17:15 *(Parallel Session-1)*	***Session Title:** (S 1-I) Future Trends and Emerging Technologies* 1. Multi-Agent Reinforcement Learning for the Energy Optimization of Cyber-Physical Production Systems: *Jupiter Bakakeu (Friedrich-Alexander-University of Erlangen-Nuremberg, Germany); Schirin Baer (Siemens AG, Germany); Dominik Kisskalt (Friedrich-Alexander-Universitaet Erlangen-Nuernberg, Germany); Hans-Henning Klos and Joern Peschke (Siemens AG, Germany); Joerg Franke (FAPS, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany)* 2. Light Weight/Low Power Multispectral MIPI Camera for Agronomy: *Aref Bakhtazad, Nicholas Mitchell and Jayshri Sabarinathan (University of Western Ontario, Canada)* 3. Customized Shape Detection Algorithms for Radiometric Calibration of Multispectral Imagers for Precision Agriculture Application: *Nicholas Mitchell, Aref Bakhtazad and Jayshri Sabarinathan (University of Western Ontario, Canada)* 4. Rapid Design Method for Generating Power System Stability Databases in SPS for Machine Learning: *Teukam Dabou Raoult (Laval University, Canada); Innocent Kamwa (Hydro-Québec/IREQ, Canada)* 5. Measuring Electric Fields Produced by MRI Gradient Coils Using a Patch Antenna Probe: *Arjama Halder (Research Assistant, Canada); Ali Attaran (Research Scientist, Canada); William Handler (Reasearch Scientist, Canada); Blaine Chronik (xMR Director, Canada)* 6. Data-Driven Performance Prediction Using Gas Turbine Sensory Signals: *Thambirajah Ravichandran (University of Waterloo & Tecsis Corporation, Canada); Yuan Liu, Amar Kumar and Alka Srivastava (Tecsis Corporation, Canada); Houman Hanachi (Algonquin College of Applied Arts and Technology, Canada); Glenn Heppler (University of Waterloo, Canada)*
15:15 – 17:15 *(Parallel Session-2)*	***Session Title:** (STSP-1) Signal Theory and Signal Processing* 1. Assessment of Neuroplasticity Using EEG Signal in Rehabilitation of Brain Stem Stroke Patients: *Maryam Butt (The University of Wollongong, Australia); Golshah Naghdy, Fazel Naghdy, Geoffrey Murray and Haiping Du (University of Wollongong, Australia)* 2. Modified ESTOI for Improving Speech Intelligibility Prediction: *Ahmed Alghamdi and Wai-Yip Geoffrey Chan (Queen's University, Canada)* 3. Average Plain Gradient Based Indirect Frequency Estimation Using Adaptive Notch Filter: *Yue Yuan (China University of Petroleum-Beijing, China); Meiyi Qing (China University of Petroleum-Beijing & University of Calgary, Canada); Hua-qing Liang (China University of Petroleum, China)* 4. Turbo Receiver for Polar Coded OFDM Systems with Unknown CSI: *Siyu Zhang and Behnam Shahrrava (University of Windsor, Canada)* 5. Evaluation of Path-Loss Models for THz Propagation in Indoor Environments: *Nagma Elburki (Université du Québec, Canada); Souheib Ben Amor and Sofiene Affes (INRS-EMT, Canada)*

	6. State-Space Randles Cell Model for Instrument Calibration: *Aaron J Fonseca and Roger Green (North Dakota State University, USA)* 7. Implementation and Evaluation of LS-SVM Optimization Methods for Estimating DoAs: *Somayeh Komeylian and Farah Mohammadi (Ryerson University, Canada)*
15:15 – 17:15 *(Parallel Session-3)*	***Session Title:*** *(CN-3) Communications and Networking* 1. Management Emulation of Advanced Network Backbones in Africa: *2019 Topology: Jose-Ignacio Castillo-Velazquez and Luis-Carlos Revilla-Melo (Autonomous University of Mexico City, Mexico)* 2. Dynamic Frame-Slotted Aloha in RFID Using Received Signal Strength Information: *Gan Luan (Beijing University of Posts and Telecommunications, China); Norman C Beaulieu (Beijing University of Posts and Telecommunications BUPT, China)* 3. GNS3 Limitations When Emulating Connectivity and Management for Backbone Networks: *A Case Study of CANARIE: Jose-Ignacio Castillo-Velazquez and Alonso Delgado-Villegas (Autonomous University of Mexico City, Mexico)* 4. Measurement and Analysis of Small Cell Splitting in a Real-world LTE-A HetNet: *Haijun Gao, Japjot Bawa and Raman Paranjape (University of Regina, Canada)* 5. A Fairness Guaranteed Dynamic PF Scheduler in LTE-A Networks: *Haijun Gao, Japjot Bawa and Raman Paranjape (University of Regina, Canada)* 6. Honeybee Algorithm for Content Delivery Networks: *Rama Ferguson, Brody Voth, Zachary di Giovanni, Diego Felix de Almeida and Michal Aibin (British Columbia Institute of Technology, Canada)* 7. Safely Engineering Egress Traffic Changes: *Greg Sidebottom (Juniper Networks, Canada), Md Rashed Iqbal Nekvi (Western University & Juniper Networks Inc., Canada), Anwar Haque (Western Ontario, Canada)*

Day 4 – Wednesday September 2, 2020			
Time	**Event**		
9:00 – 10:00	***Keynote Speaker 4:*** *Dr. Maike Luiken, IEEE Canada President 2018-2019* ***Title****: Industrial Design and the Challenges of Sustainable Development*		
10:00 – 10:30	**Break**	**10:00- 11:50**	**IoT Connect**
10:30 – 12:30 *(Parallel Session-1)*	***Session Title:*** *(PEES-3) Power Electronics & Energy Systems* 1. Diagnosing Fuel Pumps, Power Transducers, CTs, and PTs via Fuel-Power Function and 2Oo3 Voting: *Ali R. Al-Roomi and Mohamed E. El-Hawary (Dalhousie University, Canada)* 2. A Moving Target Approach for Securing Secondary Frequency Control in Microgrids: *Shichao Liu (Carleton University & Electronics, Canada); Rahul Kosuru (Carleton University, Canada); Chuma Francis Mugombozi (IREQ/Hydro-Québec, Canada)* 3. Stall Control and MPPT for a Wind Turbine, Using a Buck Converter in a Battery Storage System: *Ali Yazhari Kermani (Kerman Graduate University of Technology, Iran); Roohollah Fadaeinedjad (Gaduate University of Advanced Technology, Iran); Alireza Maheri (University of Aberdeen, United Kingdom (Great Britain)); Ebrahim Mohammadi (Western University, Canada); Gerry Moschopoulos (University of Western Ontario, Canada)* 4. Battery Storage System Optimization for Multiple Revenue Streams and Savings: *Abdeslem Kadri and Farah Mohammadi (Ryerson University, Canada)* 5. Elements of Networked Protection Systems for Distribution Networks and Microgrids: *A Cyber-Security Perspective: Younes Seyedi (Polytechnique Montreal, Canada); Houshang Karimi (Ecole Polytechnique de Montreal, Canada); Santiago Grijalva (Georgia Institute of Technology, USA); Brunilde Sansò (Ecole Polytechnique de Montreal, Canada)* 6. Analyzing the Resiliency of Microgrid Control Algorithms Against Malicious Input: *Christopher Neal and Ranwa Al Mallah (Polytechnique Montreal, Canada); José M. Fernandez (Ecole Polytechnique de Montreal, Canada); Andrea Lodi (Polytechnique Montreal, Canada)*		
10:30 – 12:30 *(Parallel Session-2)*	***Session Title:*** *(S 2-H) Future Trends and Emerging Technologies* 1. A Deep Manifold Representation for Information Discovery: *Lei Gao and Ling Guan (Ryerson University, Canada)* 2. Dynamics Targeting Through Cell Membrane: MD Simulation Approach in CNT-Based Drug Delivery Application: *Nafiseh Sohrabi (York University, Canada); Maysam Zamani Pedram (University of Calgary & KN Toosi University, Canada); Ebrahim Ghafar-Zadeh and Sebastian Magierowski (York University, Canada)* 3. A Non-Invasive Wireless Respiratory Monitoring System for Animals' Behavioural Studies: *Kuanghua Qiao, Amanda Nickerson, Suzanne MacDonald and Ebrahim Ghafar-Zadeh (York University, Canada)* 4. A New Capacitive MEMS Flow Sensor for Industrial Gas Transport Monitoring Applications: *Abbas Panahi (York University, Canada); Pouya Ghasemi (Iran University of Science and Technology, Iran); Sebastian Magierowski and Ebrahim Ghafar-Zadeh (York University, Canada)* 5. Training a Neural Network for Lane Demarcation Detection in the Infrared Spectrum: *Taufiq Rahman (National Research Council, Canada)* 6. Worker Safety Considerations for Deployment of Mobile Disconnect Switches on Transmission Lines: *Jahangir Khan and Mazana Armstrong (Powertech Labs Inc, Canada); Ali Moshref (BBA Inc., Canada)*		

12:30 – 14:00	**Break**	12:00 – 14:00	**IEEE Canada Awards Gala 2020**
14:00 – 16:00 *(Parallel Session-1)*	***Poster Session 1 (P1)***		
14:00 – 16:00 *(Parallel Session-2)*	***Poster Session 2 (P2)***		

1. Optimal Integration of DG for Improvement of Economy and Voltage in Distribution Network: *Navdeep Kaur (Thapar Institute of Engineering and Technology Patiala, India); Sanjay Jain (Thapar University, India)*
2. Textile Design Generation Using GANs: *Raja Asim Fayyaz (FAST NUCES, Pakistan); Muaz Maqbool (National University of Computer and Emerging Sciences, Pakistan); Muhammad Hanif (FAST NUCES, Pakistan)*
3. Resource Allocation in CAT-M and LTE-A Coexistence: A Joint Contention Bandwidth Optimization Scheme: *Radwa Sultan (Manhattan College, USA); Ahmed Refaey (Manhattan College, USA & Western University, Canada); Walaa Hamouda (Concordia University, Canada)*
4. A Highly Secure Platform That Supports Smart Locks: *Wafa M Elmannai, Paige Isaiah, Rei Rexha and Marcia Rivera (Manhattan College, USA)*
5. Trusted Boot for Embedded Systems Using Hypothesis Testing Benchmark: *Sara Zimmo (The University of Western Ontario, Canada); Ahmed Refaey (Manhattan College, USA & Western University, Canada); Abdallah Shami (Western University, Canada)*
6. Unsupervised Manifold Alignment for Wifi RSSI Indoor Localization: *Ahmed Refaey (Manhattan College, USA & Western University, Canada); Xianbin Wang (Western University, Canada); Zain Khaliq and Paul Mirdita (Manhattan College, USA)*
7. Lighting Protection of VSC-HVDC Transmission Systems Using ZnO Surge Arresters: *Matheus Ataka, Lucas Bacci, Thiago Lima and Ronaldo Pereira (University of São Paulo, Brazil); Eduardo Costa (Universidade de Sao Paulo, Brazil); Luisa H. B. Liboni (Institute of Education, Science, and Technology of São Paulo, Brazil)*
8. ANN Daily Peak Forecast for Peak Demand Charges Management: *Abdeslem Kadri and Farah Mohammadi (Ryerson University, Canada)*
9. Electromagnetic Noise and Vibration in PMSM and Their Sources: An Overview: *Niccolo' Remus (University of Windsor, Canada); Mohammad Sedigh Toulabi (Fiat Chrysler Automobiles (FCA) US LLC, USA); Shruthi Mukundan and Himavarsha Dhulipati (University of Windsor, Canada); Wenlong Li (University of Windsor, unknown); Colin Novak and Narayan Kar (University of Windsor, Canada)*
10. EMC Testing at Temperatures Other than Ambient: *John Makaran (Fanshawe College, Canada)*
11. Navigation and Obstacle Avoidance System in Unknown Environment: *Jaspreet Singh (Manhattan College, USA); Ahmed Refaey (Manhattan College, USA & Western University, Canada); Aiman Erbad, Amr Mohamed and Mohsen Guizani (Qatar University, Qatar)*
12. Proposed Approach for the Rapid Detection of Corona Virus Using Quantum Dots: *Kazi Naziba Tahsin (University of Western Ontario, London Canada); Amin Rizkalla and Paul Charpentier (Western University, Canada)*

1. Engagement in a Virtual Learning on Two Social Networks of an Engineering Course Using the Social Network Analysis- An Approach Using a Case Study: *Samuel Eneje (Lancaster University, Canada & Technology Enhanced Learning, United Kingdom (Great Britain)); Shereefdeen Sanni (Federal University Oye Ekiti, Nigeria); Claudio Fagundes Pereira (Brazil)*
2. Vehicle Damage Classification and Fraudulent Image Detection Including Moiré Effect Using Deep Learning: *Umer Waqas (Aithe, Korea (South)); Nimra Akram (Fatima Jinnah University, Pakistan); Soo Hwa Kim, Donghun Lee and Jeon Jihoon (AIthe, Korea (South))*
3. Toward Versatile CMOS Capacitive Sensors for Cellular Monitoring: *Hamed Osouli Tabrizi, Sebastian Magierowski and Ebrahim Ghafar-Zadeh (York University, Canada)*
4. Live RF Image Transmission Using OFDM with RPi and PlutoSDR: *Jay C Patel and Mae Seto (Dalhousie University, Canada)*

	5. A Bedsheet for Baby Monitoring at Night: *Measurement and Characterization Results: Samal Munidasa (York University, Canada); Parastoo Baghaei (University of Waterloo, Canada); Edward Shim and Olivia Lin (Studio 1 Labs, Canada); Ebrahim Ghafar-Zadeh (York University, Canada)* 6. Image Saliency Analysis in Agricultural Environments: A Survey: *Naiane Sousa (Universidade Federal de Goias, Brazil); Gabriel Vieira (Federal Institute Goiano, Brazil); Juliana Félix (Universidade Federal de Goiás, USA); Junio Lima (Instituto Federal Goiano, Brazil); Fabrizzio Soares (Universidade Federal de Goiás, Brazil & Southern Oregon University, USA)* 7. Evaluation and Detection of Gaps in Curved Sugarcane Planting Lines in Aerial Images: *Bruno Rocha (Universidade Federal de Goias, Brazil); Gabriel Vieira (Federal Institute Goiano, Brazil); Afonso Ueslei Fonseca (Universidade Federal de Goiás, Brazil); Helio Pedrini (Institute of Computing, University of Campinas, Brazil); Naiane Sousa (Universidade Federal de Goias, Brazil); Fabrizzio Soares (Universidade Federal de Goiás, Brazil & Southern Oregon University, USA)* 8. Visual Detection of Productive Crop and Pasture Fields from Aerial Image Analysis: *Gabriel Vieira (Federal Institute Goiano, Brazil); Bruno Rocha (Universidade Federal de Goias, Brazil); Helio Pedrini (Institute of Computing, University of Campinas, Brazil); Naiane Sousa (Universidade Federal de Goias, Brazil); Junio Lima (Instituto Federal Goiano, Brazil); Ronaldo Costa (University of Goiás, Brazil); Fabrizzio Soares (Universidade Federal de Goiás, Brazil & Southern Oregon University, USA)* 9. Stereo Matching Optimization with Multi-baseline Trinocular Camera Model: *Jie Wang, Chenglei Peng, Sidan Du and Yang Li (Nanjing University, China)* 10. A Study of Jacobi-Fourier Moments via Image Reconstruction: *Yubing Liang and Simon X. Liao (University of Winnipeg, Canada)* 11. A D-Type Flip-Flop with Enhanced Timing Using Low Supply Voltage: *Osama Naser Bondoq (PSUT, Jordan); Khaldoon Abugharbieh and Abdullah Hasan (Princess Sumaya University for Technology, Jordan)* 12. A Low-Power 25GS/Sec Sample and Hold Circuit with Active-Load Inductors: *Abdullah Hasan, Khaldoon Abugharbieh, Muntaser Al-Mousely and Waseem Al-Akel (Princess Sumaya University for Technology, Jordan)*
14:00 – 16:00 *(Parallel Session-3)*	***Poster Session 3 (P3)*** 1. A 0.3V 15.6MHz 7T SRAM with Boosted Write and Read Worldlines: *Mohammad AL-Fayyad (Princess Sumaya University for Technology, Amman, Jordan); Khaldoon Abugharbieh (Princess Sumaya University for Technology, Jordan)* 2. A Non-Magnetic RF Balun Designed at 128 MHz Centre Frequency for 3 T MRI Scanners: *Ali Dianat (University of Windsor, Canada); Ali Attaran (Research Scientist, Canada); Roberto Muscedere (University of Windsor, Canada); Blaine Chronik (xMR Director, Canada)* 3. Dual-Modality Cardiac Data Real-Time Rendering and Synchronization in Web Browsers: *Qi Zhang (Illinois State University, USA)* 4. Fuzzy Adaptive Control of a Knee-Joint Orthosis for the Smooth Tracking: *Ebrahim Navid Sadjadi (Carlos III of Madrid & Tehran Polytechnic University, Spain); Behzad Moshiri (University of Tehran & University of Waterloo, Iran); Danial Sadrian Zadeh (University of Tehran, Iran)* 5. Foreign Artifacts Detection on Pediatric Chest X-Ray: *Afonso Ueslei Fonseca (Universidade Federal de Goiás, Brazil); Leandro Luis de Oliveira (Federal University of Goias, Brazil); Jaline Mombach (University of Goiás, Brazil); Deborah S. A. Fernandes (Universidade Federal de Goias, Brazil); Rogerio Salvini (Universidade Federal de Goiás, Brazil); Fabrizzio Soares (Universidade Federal de Goiás, Brazil & Southern Oregon University, USA)* 6. Feasibility Analysis of a Solar Water Pumping System in Pakistani Conditions: *A Case Study: Usman Ashraf and Mohammad Tariq Iqbal (Memorial University of Newfoundland, Canada)* 7. A Novel Approach for Seasonality and Trend Detection Using Fast Fourier Transform in Box-Jenkins Algorithm: *Hmeda Musbah (Canada, Canada); Hamed Aly and Timothy Little (Dalhousie University, Canada)*

	8. Automation of Thermal Energy Storage in Homes Using Artificial Neural Networks: *Balaji Venkatesh (Markville Secondary School, Canada)* 9. Toward Smart Internet of Things (IoT) Devices: Exploring the Regions of Interest for Recognition of Facial Expressions Using Eye-gaze Tracking: *Abdallah S. Abdallah (Penn State University, USA); Lisa Elliott (Penn State Erie - The Behrend College, Canada); Daniel Donley (Penn State Erie - The Behrend College, USA)* 10. Next Generation of Network Reference Architecture in K-12 Education Sector: *Mirza Kamaludeen (ig2 Group, Canada); Salam Ismaeel (Ryerson University, Canada); Sarah Asiri (ig2 Group, Canada)*
16:00 – 16:30	***Closing Ceremony***