

Program at Glance of the IEEE Canadian Conference on Electrical and Computer Engineering (IEEE CCECE-2021) September 12 – September 17, 2021

Date	Time	Event
Day 1 – Sunday Sept. 12, 2021	10:00 – 13:00	Tutorial-1: Edge-based distributed inference for efficient IoT Applications - Amr Mohamed, Aiman Erbad, and Mohsen Guizani Session Chair: Aiman Erbad Tutorial-2: IoT Workshop: Part -1 - Reza Vahidnia – BCIT Session Chair: Reza Vahidnia
	13:00 – 13:30	Break
	13:30 – 16:30	Tutorial-3: Collaborative Intelligence for the Internet of Things - Ivan Bajic, Simon Fraser University Session Chair: Ivan Bajic Tutorial-4: IoT Workshop: Part -2 - Reza Vahidnia - BCIT Session Chair: Reza Vahidnia
Day 2 – Monday Sept. 13, 2021	9:00 – 9:15	Opening Ceremony (Xianbin Wang – Jason Gu)
	9:15- 10:10	IEEE Canada Gala (Celia Desmond)
	10:15 – 11:15	Keynote Speaker: Dr. Susan (Kathy) Land – <i>IEEE In An Internet Dominated World</i>
	11:15– 11:30	Break
	11:30 – 12:30	Tech Session 1: Machine Learning and Estimation Applications Session Chair: Fahmi Khalifa (Mansoura University, Egypt); Ahmed Soliman (University of Louisville, USA) 1. Angle of Arrival Estimation in Indoor Environment Using Machine Learning - Aysha Alteneji (Khalifa University, United Arab Emirates); Ubaid Ahmad (EBTIC, Khalifa University, United Arab Emirates); Kin Fai Poon (Khalifa University, United Arab Emirates); Nazar Thamer Ali (Khalifa University, United Arab Emirates); Nawaf Almoosa (Khalifa University, United Arab Emirates) 2. Classification of Partial Discharge Signals Using 1D Convolutional Neural Networks - Sara Mantach (University of Manitoba, Canada); Hamed Janani (Verint Systems, Canada); Ahmed Ashraf and Behzad Kordi (University of Manitoba, Canada) 3. Detection of COVID-19 Using Deep Convolutional Neural Network on Chest X-Ray (CXR) Images - Goon Sheng Tang (UCSI University, Malaysia); Li Sze Chow (UCSI University, Malaysia & University of Sheffield, United Kingdom (Great Britain)); Mahmud Iwan Solihin (UCSI University, Malaysia); Norlisah Ramli, Nadia Fareeda Gowdh and Kartini Rahmat (University of Malaya, Malaysia) 4. Very Short-Term Wind Speed Prediction Techniques Using Machine Learning - Aman Samson Mogos, Md. Salauddin, Xiaodong Liang and Chi Yung Chung (University of Saskatchewan, Canada)

		<p>Tech Session 1: Computer and Software Engineering Session Chair: Fahmi Khalifa (Mansoura University, Egypt); Ahmed Soliman (University of Louisville, USA)</p> <ol style="list-style-type: none"> 1. Design & Development of an AI-Powered Baby Monitoring System - Kajan Ravindran, Mohamed Ibrahim, Hyon Lee and Umar Qureshi (Ontario tech University, Canada); Khalid Abdel Hafeez (Ryerson University, Canada) 2. LAWA: Loss-Aware Workload Assignment in Data Centers - Zahra Esmaeilnezhad and Douglas Down (McMaster University, Canada) 3. Implementing Multistage Interconnection Networks on FPGA Using Chisel Language - Andy Galloway (Polytechnique Montreal, Canada); Tarek Ould-Bachir (Polytechnique Montréal, Canada) 4. Improving the Efficiency of Embedded Data Logging on NAND Flash for IoT Systems - Scott Fazackerley (Okanagan College & University of British Columbia, Canada); Ramon Lawrence (University of British Columbia Okanagan, Canada)
12:30 – 13:30	<p>McNaughton Winner Talk – Prof. Rajni Patel - <i>Teleoperation, Force Sensing, Haptics and Control Issues in Medical Robotic</i></p>	<p>Session Chair: Celia Desmond Zoom Link: https://zoom.us/j/94967708800</p>
13:30 – 15:00		<p>Tech Session 2: Invited Papers Session Chair: Ahmed Elnakib (University of Mansoura, Egypt)</p> <ol style="list-style-type: none"> 1. Sea Ice Detection from the RADARSAT Constellation Mission Experiment Data - Hangyu Lyu, Weimin Huang and Masoud Mahdianpari (Memorial University, Canada) 2. The Impact of Vote Counting Policy on the Performance of PBFT - Vojislav B. Mišić and Jelena Mišić (Ryerson University, Canada); Xiaolin Chang (Beijing Jiaotong University, China) 3. Multiple Leader PBFT Based Blockchain Architecture for IoT Domains - Haytham Qushtom, Jelena Mišić and Vojislav B. Mišić (Ryerson University, Canada) 4. Reinforcement Learning for Resource Allocation in Steerable Laser-Based Optical Wireless Systems - Abdelrahman Said Elgamal, Osama Zwaïd Alsulami, Ahmad Adnan Qidan, Taisir El-Gorashi and Jaafar Elmighani (University of Leeds, United Kingdom (Great Britain)) 5. Holistic Performance, Reliability and Thermal Understanding of HPC Real Utilization on Silicon Architecture - Gamal Refai-Ahmed (Xilinx Inc., USA); Hoa Do (Xilinx Inc., USA); I-Ru Chen (Xilinx Inc., USA); Jae-Gyung Ahn (Xilinx, USA); Huayan Wang, Xin Wu and Suresh Ramalingam (Xilinx Inc., USA) 6. Adversarial Human Activity Recognition Using Wi-Fi CSI - Harshit Ambalkar and Xuyi Wang (California State University, Sacramento, USA); Shiwen Mao (Auburn University, USA) 7. A GPU Hyper-Converged Platform for 5G vRAN and Multi-Access Edge Computing - Chris Dick (NVIDIA, USA); Anupa Kelkar (NVIDIA, USA)
15:00 – 15:30	Break	

	15:30 – 16:30	<p>Tech Session 3: Cybersecurity in Systems Session Chair: Shahram Mollahasani (University of Ottawa)</p> <ol style="list-style-type: none"> 1. A Physical-Layer Security Approach for IoT Against Jamming Interference Attacks - Eman Hammad (University of Toronto, Canada); Abdallah Farraj (NovoSek, Canada) 2. Indistinguishability and Non-Deterministic Encryption of the Quantum Safe Multivariate Polynomial Public Key Cryptographic System - Randy Kuang (Chief Scientist, Canada); Michel Barbeau (Carleton University, Canada) 3. Efficient Multiplier and FPGA Implementation for NTRU Prime - Huapeng Wu and Xi Gao (University of Windsor, Canada) 4. Detecting DDoS Attacks Using an Adaptive-Wavelet Convolutional Neural Network - Maryam Ghanbari and Witold Kinsner (University of Manitoba, Canada) 	<p>Panel-1: Evolving Dynamics of Industry-Academia Collaboration Panel Chair: Deyasini Majumder Panelists: Witold Kinsner – University of Manitoba Mohammad Moshirpour – University of Calgary Julia Elvidge – Chipworks, SheBoot, Advisor Invest Ottawa Tom Murad – Siemens Mobility</p> <p>Session Chair: Rozzita Marinova (Concordia University)</p>
		<p>Tech Session 3: Machine Learning and Artificial Intelligence Session Chair: Shahram Mollahasani (University of Ottawa)</p> <ol style="list-style-type: none"> 1. Understanding Power of Graph Convolutional Neural Network on Discriminating Human EEG Signal-Tina Behrouzi and Dimitrios Hatzinakos (University of Toronto, Canada) 2. Reinforcement Learning Algorithms: An Overview and Classification-Fadi AlMahamid (University of Western Ontario, Canada); Katarina Grolinger (The University of Western Ontario, Canada) 3. A CNN-Based Hybrid Model and Architecture for Shilling Attack Detection-Masha Ebrahimian and Rasha Kashef (Ryerson University, Canada) 4. Code Authorship Attribution Using Content-Based and Non-Content-Based Features-Parinaz Bayrami and Jacqueline E. Rice (University of Lethbridge, Canada) 	
Day 3 – Tuesday Sept. 14, 2021	9:00 – 10:00	<p>Keynote Speaker: Prof. Vincent Chan - Future Optical Network Architecture</p>	<p>Session Chair: Xianbin Wang Zoom Link: https://zoom.us/j/98962483558</p>
	10:00 – 10:30	Break	
	10:30 – 12:30	<p>Tech Session 4: Communications and Networking Session Chair: Lei Lei (University of Guelph, Canada); Yehya Senousy (University of Louisville, USA)</p> <ol style="list-style-type: none"> 1. Low-Overhead Data Synchronization Enabled by Prescheduled Task Period in Time-Sensitive IoT Systems - Haide Wang, Pengyi Jia and Xianbin Wang (Western University, Canada) 2. LoRa Gateway Placement Optimization Based on a Data-Driven Low Height Path Loss Model - Andrew Bidell, Yuan Liu and Hao Liang (University of Alberta, Canada) 3. A Game-Theoretic Approach for Uncoordinated Access to Cognitive Resources - Abdallah Farraj (NovoSek, Canada); Eman Hammad (University of Toronto, Canada) 4. Satellite Image and Received Signal-Based Outdoor Localization Using Deep Neural Networks - Hind Mukhtar and Melike Erol-Kantarci (University of Ottawa, Canada) 5. TCNS: An Efficient Trusted Cooperative Node Selection Model for Internet of Vehicles - Jiazhi Chen and Xianbin Wang (Western University, Canada) 	<p>Panel-2: : NSERC Research Grants and Alliance opportunities Panelist: Jennifer Mills, NSERC Session Chair: Félix Moore, Program Officer, NSERC</p>

		<p>6. Learning-Assisted Access Management for Dense 3D Small Cell Networks - <i>Samantha Sriyananda (University of Western Ontario, Canada); Xianbin Wang (Western University, Canada); Serguei Primak (University of Western Ontario, Canada)</i></p> <p>7. Nested Column Generation Algorithm for the Routing and Spectrum Assignment Problem in Flexgrid Optical Networks - <i>Adham Mohammed and Brigitte Jaumard (Concordia University, Canada)</i></p> <p>8. Novel Design of Irregular Polar Codes for Latency Reduction in Fast Polar Decoders - <i>Hossein Khoshnevis, Congzhe Cao and Deyuan Chang (Huawei Technologies Canada Research Center, Canada); Chuandong Li (Huawei Technologies (Canada), Canada)</i></p>	
12:30 – 13:30		<p>Technical Awards Winners talks: <i>Andreas Moshovos - Empowering Innovation in Computing: The Role of Computer Architecture; Lukas Chrostowski: Lawrence Whitby – My Experience as a Volunteer; Chi Yung Chung – Grid Modernization: Challenges and Opportunities</i></p>	<p>Session Chair: <i>Celia Desmond</i> Zoom Link: https://zoom.us/j/97521270451</p>
	13:30 – 15:00	<p>Tech Session 5: Power Electronics and Energy Systems Session Chair: <i>Turgay Pamuklu (University of Ottawa)</i></p> <p>1. Optimal Planning of Distributed Generation Using Improved Grey Wolf Optimizer and Combined Power Loss Sensitivity - <i>Mohamed Sodani, Hamed Aly and Timothy Little (Dalhousie University, Canada)</i></p> <p>2. Smart Inverter Modeling Toolbox for EMT Simulation Studies of Power Systems - <i>Nayeem Ninad (Renewable Energy Integration, CanmetENERGY, Natural Resources Canada, Canada); Jean-Philippe Bérard (CanmetENERGY, Natural Resources Canada (NRCan), Varennes, QC, Canada); Syed Ali (Opal-RT Technologies, Canada)</i></p> <p>3. Experimental Investigation of 21-Level Inverter Using SHE Modulation Technique for Harmonics Mitigation - <i>Vijay Sirohi (Punjab Engineering College, India); Jagdish Kumar and Tejinder Singh Saggu (PEC University of Technology, India); Balbir(Bob) Gill (British Columbia Institute of Technology, Canada)</i></p> <p>4. Complete Equivalent Model of Hybrid Three-Level and Modular Multilevel Converter for Accelerated Electromagnetic Transient Simulation - <i>Jintao Han and Levi Bieber (University of British Columbia, Okanagan, Canada); Liwei Wang (University of British Columbia, Canada); Wei Li (OPAL-RT Technologies Inc., Canada)</i></p> <p>5. An FPGA-Based Real-Time Simulation of a Hybrid Fuel Cell/Battery Source - <i>Karim Meddah and Tarek Ould-Bachir (Polytechnique Montréal, Canada); Mohamed Becherif and Amel Benmouna (UTBM, Femto-ST/FCLab UMR CNRS, France)</i></p> <p>6. Continuous Control Set Model Predictive Control for Multilevel Packed E-Cell Inverter-<i>Amirabbas Kaymanesh (École de Technologie Supérieure, Canada); Amrisha Chandra (Ecole de Technologie, Supérieure, Canada); Kamal Al-Haddad (Ecole de technologie supérieure, Canada)</i></p>	

		Tech Session 5: Special Sessions Session Chair: Deyasini Majumdar (IEEE Canada); Rossitza Marinova (Concordia University)	
		<ol style="list-style-type: none"> 1. Cybersecurity Education in Rural Indigenous Canada - Sarah Plosker (Brandon University, Canada); Gautam Srivastava (Brandon University & China Medical University, Canada) 2. Digital Twins for Personalized Education and Lifelong Learning - Witold Kinsner (University of Manitoba, Canada) 3. A Personalized Cyber-Physical Laboratory for a Real-Time Systems Interfacing Course - Witold Kinsner, Hongru Li, Siobhan Reid and Vinh Vu (University of Manitoba, Canada); Zhou Zhou (Pollard Banknote Limited, Canada); Michael Lambeta (Facebook, USA); Oleg Shevchenko and Glen Kolansky (University of Manitoba, Canada) 4. Development of Hybrid AI Model for Car Steering Shaft Assembly by Combining Gaussian Process Regression and Artificial Neural Network - Yanjun Qian (University of Waterloo, Canada); Jongmun Kim (Korea Electrotechnology Research Institute, Korea (South)); Hyock-Ju Kwon (University of Waterloo, Canada) 5. Feed-Forward Neural Network-Based Approach for Performance Analysis and Evaluation of the Laser Polishing of H13 Tool Steel - Honghe Wu (Western University, Canada); Evgueni Bordatchev (National Research Council of Canada & Western University, Canada) 	
	15:00 – 15:30	Break	
	15:30 – 16:30	Tech Session 6: Signal Processing and Applications Session Chair: Roghayeh Joda (University of Ottawa)	Panel-3: Where Next? Innovation and Partnerships in Emerging Technologies Paul Baptista - Ericsson Ketaki Desai - OCI Dan Desjardins - Kings Distributed Systems Sameh Sorour - Queen's University Session Chair: Philippa King - OCI
	15:30 – 16:30	<ol style="list-style-type: none"> 1. CDM Based Virtual FMCW MIMO Radar Imaging at 79GHz - Shahrokh Hamidi (University of Waterloo); Safieddin Safavi Naeini (University of Waterloo, Canada) 2. Millimeter-Wave Circular Synthetic Aperture Radar Imaging - Shahrokh Hamidi and Safieddin Safavi Naeini (University of Waterloo, Canada) 3. Noise Removal from ECG Signals by Adaptive Filter Based on Variable Step Size LMS Using Evolutionary Algorithms - Balbir(Bob) Gill (British Columbia Institute of Technology, Canada); Saeed Ebadollahi (IUST, Iran); Mohammad Saberi (Aghigh Institute of Higher Education, Iran); Navid Yazdanjue and Ramin Shaddeli (Iran University of Science and Technology, Iran) 	
Day 4 – Wednesday Sept. 15, 2021	9:00 – 10:00	Keynote Speaker: Prof. Moe Win 'Foundation for Localization-of-Things in 5G Ecosystem and Beyond'	Session Chair: Melike Erol-Kantarci Zoom Link: https://zoom.us/j/93688852110
	10:00 – 10:30	Break	
	10:30 – 12:30	Tech Session 7: Machine, Computer Vision and ML Session Chair: Khan A Wahid (University of Saskatchewan, Canada)	Panel 4: Power System Transformation World-wide Session Chair: Maïke Luiken, Past President, IEEE Canada
		<ol style="list-style-type: none"> 1. Efficient Model Based Grid Intersection Detection for Single-Shot 3D Reconstruction - Kasra Sadatsharifi and Mohamed A. Naiel (University of Waterloo, Canada); Mark Lamm (Christie Digital Systems, Canada); Paul Fieguth (University of Waterloo, Canada) 2. A Study of Saliency Methods for Tree Detection in Aerial Images of Rural Areas - Naiane Sousa (Universidade Federal de Goias, Brazil); Juliana Félix (Universidade Federal de Goiás, Brazil); Gabriel Vieira (Federal Institute Goiano, Brazil); Bruno Rocha (Universidade Federal de Goias, Brazil); Fabrizio Soares (Universidade Federal de Goiás, Brazil & Southern Oregon University, USA) 	

	<p>3. I-Generalized and Kullback-Leibler Divergences for Content-Based Image Retrieval - Bruno Rocha (Universidade Federal de Goias, Brazil); Daniela Ferreira (Universidade Federal de Uberlandia, Brazil); Celia Barcelos (Federal University of Uberlândia, Brazil); Fabrizio Soares (Universidade Federal de Goiás, Brazil & Southern Oregon University, USA)</p> <p>4. An Effective Method for Automated Railcar Number Detection and Recognition Based on Deep Learning - Ran Zhang, Zhila Bahrami and Zheng Liu (University of British Columbia Okanagan, Canada)</p> <p>5. GroupNet: Detecting the Social Distancing Violation Using Object Tracking in Crowdscape - Anthony J Boyko and Mohamed Abdelpakey (University of British Columbia, Canada); Mohamed S Shehata (University of British Columbia & Memorial University, Canada)</p> <p>6. Arrhythmia Classification Using Hybrid Feature Selection Approach and Ensemble Learning Technique - Mohammad Mahbubur Rahman Khan Mamun and Ali Alouani (Tennessee Technological University, USA)</p> <p>7. LIME-Enabled Investigation of Convolutional Neural Network Performances in Covid-19 Chest X-Ray Detection - Eduardo Gasca Cervantes and Wai-Yip Geoffrey Chan (Queen's University, Canada)</p>	
12:30 – 13:30	Keynote: Dr. Chris Dick - <i>Aerial: An AI/ML Enabled Software Defined Radio Approach for Next Generation Wireless</i>	Session Chair: Ahmed Refaey Zoom Link: https://zoom.us/j/96636729584
13:30 – 15:00	<p>Tech Session 8: Energy Systems and Sustainable Energy Session Chair: Mostafa Farrokhabadi (University of Waterloo, Canada)</p> <p>1. Data-Driven Wind Speed Forecasting Techniques Using Hybrid Neural Network Methods - Mehdi Abbasipour, Mosayeb Afshari Igder and Xiaodong Liang (University of Saskatchewan, Canada)</p> <p>2. VRF Battery Characterization Using Microwave Planar Complementary Split Ring Resonators - Calvin Schofield, Nazli Kazemi and Petr Musilek (University of Alberta, Canada)</p> <p>3. Comparative Analysis of Time Series and Artificial Intelligence Algorithms for Short Term Load Forecasting - Hana Beydoun, Ahmad Khan and Seyed Ali Arefifar (Oakland University, USA)</p> <p>4. Design and Development of an Intelligent Tool for Retail Electric Provider Plan Selection - Daniel Mabuggwe (Ontario Tech University, Canada); Walid Morsi (Ontario Tech University (UOIT), Canada)</p> <p>5. Optimal Real-Time Scheduling of Battery Operation Using Reinforcement Learning - Carolina Quiroz Juarez and Petr Musilek (University of Alberta, Canada)</p> <p>6. A New Approach to Design New Orthogonal Wavelets Using Unsupervised Clustering Applied to Nonintrusive Load Monitoring - Jessie Gillis (University of Ontario Institute of Technology, Canada); Walid Morsi (Ontario Tech University (UOIT), Canada)</p>	
15:00 – 15:30	Break	
15:30 – 16:30	<p>Tech Session 9: Circuits, Devices, and Photonics Session Chair: Wei Shi (University of British Columbia, Canada)</p> <p>1. Modeling of MoS2 Tunnel Field Effect Transistor in Verilog-A for VLSI Circuit Design - Md Khan and Naheem Adesina (Louisiana State University, USA); Jian Xu (Louisiana State University, Canada)</p> <p>2. Thermal Stress Analysis and Stabilization of Metal and SU-8 Coatings for Tri-Layer Mirror - Mehdi Allameh and Shirin Ramezanzadehyazdi (University of Manitoba, Canada); Byoungyoul Park (National Research Council of Canada, Canada); Cyrus Shafai (University of Manitoba, Canada)</p> <p>3. High Q-Factor Graphene-Based Inductor CMOS LC Voltage Controlled Oscillator for PLL Applications - Naheem Adesina and Ashok Srivastava (Louisiana State University, USA)</p>	<p>Panel 5: Net Zero Emissions and the Technology Required Organizers: Gamal Refai-Ahmed Ray Barton Panelists: Soheil Asgarpour - Petroleum Technology Alliance of Canada Peter Devita - Engineers for the Profession Barrie Kirk - CAVCOE</p>

		4. Design and Implementation of an 8-Bit, 256-Step Digitally-Controlled Phase Shifter at 2.1 GHz with Minimum 1.41 ⁰ Phase Change for Its LSB Step Size - Shakeeb Abdullah (Carleton University & NRC, Canada); Gaozhi (George) Xiao (National Research Council Canada, Canada); Rony E. Amaya (Carleton University, Canada)	Jiri Skopek - Jiri Skopek Architect and Planner Session Chair: Dale Tardiff Zoom Link
Day 5 – Thursday Sept. 16, 2021	9:00 – 10:00	Keynote Speaker: Prof. Mohsen Guizani - Federated Learning and its applications to Internet of Things	Session Chair: Xianbin Wang Zoom Link https://zoom.us/j/96393792197
	10:00 – 10:30	Break	
	10:30 – 12:30	Tech Session 10: Applied Machine Learning and Data Analytics Session Chair: Ebrahim Ghafar-Zadeh (York University, Canada); Vijay Parsa (University of Western Ontario, Canada) <ol style="list-style-type: none"> 1. COVID-Net MLSys: Designing COVID-Net for the Clinical Workflow - Audrey Chung (DarwinAI, Canada); Maya Pavlova (University of Waterloo, Canada) 2. A Multi-Agent Krill Herd Algorithm - Amir Andaliby Joghataie (University of Victoria & Nokia Canada, Canada); T. Aaron Gulliver (University of Victoria, Canada) 3. Optimal Bidding Strategy in Day-Ahead Electricity Market for Large Consumers - Behrouz Banitalebi, Srimantoorao Appadoo and Aerambamoorthy Thavaneswaran (University of Manitoba, Canada) 4. Toward Using Few-Shot Learning for Prediction of Complex In-Service Defects of Composite Products: A Case Study - Mohamad Khajezade and Milad Ramezankhani (University of British Columbia Okanagan, Canada); Fatemeh Fard (University of British Columbia, Canada); Mohamed S Shehata (University of British Columbia & Memorial University, Canada); Abbas Milani (University of British Columbia Okanagan, Canada) 5. Predicting Physiological Effects of Chemical Substances Using Natural Language Processing - Sourav Mukherjee (Fairleigh Dickinson University Vancouver, Canada); J BenJoseph (University of Maryland Baltimore County, USA); Marcelo Campos, Prashan Malla, Hieu Nguyen and Anh Pham (Fairleigh Dickinson University Vancouver, Canada); Tim Oates (University of Maryland, Baltimore County, USA); Vasudevan Janarathanan (Fairleigh Dickinson University, Canada) 6. Tool Wear Monitoring Using Machine Learning - Ming Li and Mihai Burzo (University of Michigan-Flint, USA) 7. Time Frequency Representations and Deep Convolutional Neural Networks: A Recipe for Molecular Properties Prediction - Alain Beaudelaire Tchagang (NRC, Canada); Julio Valdes (Researcher at the National Research Council of Canada, Canada) 	Panel 6: IEEE Standards – Innovations to Standardization: The Role of Standards in Innovation Panelists: Mehmet Ulema, Manhattan College Alex Gelman, NetOvation Rudi Schubert, IEEE SA Session Chair: Glenn Parsons
	12:30 – 13:30	IEEE Canada President Elect Candidates	Session Chair: Maike Luiken Zoom Link https://zoom.us/j/95085797370
	13:30 – 15:00	Tech Session 11: Biomedical Applications and Assistive Technologies Session Chair: Stephanie Willerth (University of Victoria, Canada) <ol style="list-style-type: none"> 1. Assistive Technology for Hearing-Impaired and Deaf Students Utilizing Augmented Reality - Ali Mohammed Ridha and Wessam Shehieb (Ajman University, United Arab Emirates) 2. Design of a Continuous Flow UVC Lamp for Office Air Germicide Elimination - Tanya Gachovska (Solantro Semiconductor Corp., Canada); Manishkumar Moorjmalani (Carleton University, Canada); Georgi Gachovski (Furlani Foods, Canada); Mahdi Tude Ranjbar (Solantro Semiconductor Corp., Canada); Malek Amiali (ENSA, Algeria); Constantin Pintilei (Nemko, Canada); Zied Bouida (Carleton University, Canada); Alfredo Herrera (University of Ottawa, Canada) 	

		<p>3. Combining Tabu Search and Genetic Algorithm to Determine Optimal Nurse Schedules - Justin Schrack, Roy Ortega, Kevin Dabu and Daniel Truong (British Columbia Institute of Technology, Canada); Michal Aibin (British Columbia Institute of Technology, Canada & Northeastern University, USA); Ania Aibin (British Columbia Institute of Technology, Canada)</p> <p>4. CMOS Capacitive DNA Nano-Mass Measurement for DNA Storage Application - Hamed Osouli Tabrizi and Saghi Forouhi (York University, Canada); Morteza Ghafar-Zadeh (Biologically Inspired Sensors and Actuators Laboratory (BioSA), Canada); Sebastian Magierowski and Ebrahim Ghafar-Zadeh (York University, Canada)</p> <p>5. Privacy Preserving Occupancy Detection Using NB IoT Sensors - Cody Chand, Angelo Villanueva and Matt Marty (British Columbia Institute of Technology, Canada); Michal Aibin (British Columbia Institute of Technology, Canada & Northeastern University, USA)</p>	
	15:00 – 15:30	Break	
	15:30 – 16:30	<p>Tech Session 12: Computer Technologies and Autonomous systems Session Chair: Daniela Constantinescu (University of Victoria, Canada)</p> <p>1. Implementing an Improved Image Enhancement Algorithm on FPGA - Prit Patel (University of Windsor, Canada); Arash Ahmadi (University of Windsor, Canada & University of Southampton, United Kingdom (Great Britain)); Mohammed Khalid (University of Windsor, Canada)</p> <p>2. Energy-Efficient Algorithm for Robot-Assisted Sensor Deployment - Joseph Valencic and Lovina Saxena (Norleaf Networks, Canada); Rohit Joshi (Cistel Technology, Canada); Marzia Zaman (Cistel Technology Inc., Canada)</p> <p>3. Risky Zone Avoidance Strategies for Drones - Michel Barbeau (Carleton University, Canada); Joaquin Garcia-Alfaro (Institut Mines-Telecom, France); Evangelos Kranakis (Carleton University, Canada)</p>	<p>Panel-7: Women in Engineering – Awards Applications and Membership Advancement</p> <p>Panelists: Hadis Karimipour –University of Calgary Maryam Davoudpour - Ryerson University Jeffrey Arcand - Software Engineering Leanne Dawson - University of Calgary</p> <p>Session Chair: Winnie Ye – IEEE Canada WIE Chair</p>
Day 6 – Friday Sept.17,2021	9:00 – 10:00	Keynote Speaker (IoT Connect): Soumaya Cherkaoui - <i>Edge Intelligence: Challenges and Opportunities</i>	Session Chair: Ahmed Refaey Zoom Link https://zoom.us/j/97795994454
	10:00 – 12:00	Session 1: IoT Connect – Invited Speakers Session Chair: Ahmed Refaey Zoom Link https://zoom.us/j/96525118975 Damla Turgut - <i>Humans, AI, and IoT</i> Amr Mohamed - <i>Multi-agent Reinforcement Learning for Scalable Smart Health Applications</i> Ayman Radwan - <i>New Trends in IoT Networks towards 6G</i> Luca Foschini	
	12:00 – 12:30	Break	
	12:30 – 14:00	Session 2: IoT Connect – Invited Speakers Session Chair: Ahmed Refaey Zoom Link https://zoom.us/j/95278719480 Olof Liberg: <i>Cellular IoT – From 5G to 5G Advanced</i> Matthew Krieger - <i>IoT Security – Even More Complex Than It Seems (2021 update)</i> Aiman Erbad - <i>Reinforcement Learning for Efficient and Privacy Preserving Distributed Inference in Smart City IoT Systems</i>	

14:00 – 16:00	<p>Session 3: IoT Connect – Technical Paper Session 13 Session Chair: Ali Mahmoud (University of Louisville, USA)</p> <ol style="list-style-type: none"> 1. Evaluating an IoT Under-Mattress Sensor Mat for Detecting Anomalies in Sleep Parameters: A Pilot Study - Ibrahim Sadek (University of Sherbrooke & Helwan University, Canada); Bessam Abdulrazak (Université de Sherbrooke, Canada); Mounir Mokhtari (Institut Mines-Télécom, France) 2. A CNN-ELM-Based Method for Ballistocardiogram Classification in a Clinical Environment - Sahar Tahir (University of Sherbrooke, Canada); Ibrahim Sadek (University of Sherbrooke & Helwan University, Canada); Bessam Abdulrazak (Université de Sherbrooke, Canada) 3. Voting Control in Multiple Entry PBFT Blockchain Systems for IoT - Jelena Mišić and Vojislav B. Mišić (Ryerson University, Canada); Xiaolin Chang (Beijing Jiaotong University, China); Priyanka Sarode (Ryerson University, Canada) 4. Anomaly Detection on Smart Meters Using Hierarchical Self Organizing Maps - Muhammadjon Toshpulatov and Nur Zincir-Heywood (Dalhousie University, Canada) 5. B5G: Intelligent Coexistence Model for Edge Network - Sara Zimmo (The University of Western Ontario, Canada); Ahmed Refaey (Manhattan College, USA & Western University, Canada); Abdallah Shami (Western University, Canada) 6. Measuring Noise Pollution by Utilizing Bluetooth Low Energy Beacons - Evan Fallis and Petros Spachos (University of Guelph, Canada)
16:00 – 16:30	<p style="text-align: center;">Closing Ceremony Zoom Link: https://zoom.us/j/97592254013</p>

