

## Conference schedule

### Day 1: Wednesday, March 22, 2017

10AM-1PM	<u>Tutorial-I</u> Topic: Cyber Security threats, measures and control in a process plant Speaker: Dr. Sunny R Desai <b>Room: Governor General Main (2<sup>nd</sup> floor)</b>	<u>Tutorial-II</u> Topic : Internet of Things for Sustainable Future Smart Buildings Speaker: Dr. Muhammad Alam <b>Room: Richmond (3<sup>rd</sup> floor)</b>	<u>Tutorial-III</u> Topic : Dynamic Virtual Organizations Constriction Framework Speaker: Dr. Morcouc <b>Room: Governor General Parlor (2<sup>nd</sup> floor)</b>	<u>Workshop</u> Topic: Research-led Innovation into Commercialization Speaker: Dr. Nihal Kularatna and Dr. Marc Perron <b>Room : Casson (Convention level)</b>
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#### LUNCH BREAK (1PM -2PM)

2PM-5PM	<u>Tutorial-IV</u> Topic : Battery / Super-capacitor Management Systems Speaker: Dr. Eric Cheng <b>Room: Richmond (3<sup>rd</sup> floor)</b>	<u>Tutorial-V</u> Topic: Industrial Wireless Networking – Status, Challenges and Opportunities Speaker: Dr. Mikael Gidlund, Dr Johan Åkerberg and Dr Tomas Lennvall <b>Room: Governor General Parlor (2<sup>nd</sup> floor)</b>
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#### Welcome Reception (Governor General Main)

5PM-6:30PM

### Day 2: Thursday, March 23, 2017

7.15AM - 8AM	<h4 style="color: #D9534F;">Opening Ceremony (Toronto I – II)</h4>
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8AM-9.30AM	<u>Plenary Talk-I</u> Topic: Issues and Challenges in Autonomous Microgrids Speaker: Dr. Mo El-Hawary Professor, Dalhousie University <b>Room: Toronto I – II (Convention level)</b>	<u>Plenary Talk-II</u> Topic: Multilevel Inverters for Induction Motor Drives and Grid Connected Applications Speaker : Dr. K. GopaKumar, Professor Indian Institute of Science (IISc) <b>Room: Toronto I – II (Convention level)</b>
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9.30AM-1.30PM	<u>Room no: 1</u> TT: Power Electronics and Energy Conversion-I <b>Room: Jackson (Convention level)</b>	<u>Room no: 2</u> TT:Control System, Robotics and Automation-I <b>Room:Carmichael (Convention level)</b>	<u>Room no: 3</u> TT: Renewable Energy Systems-I <b>Room: Casson (Convention level)</b>	<u>Room no: 4</u> TT: Signal and Image Processing and Computational Intelligence-I <b>Room: Varley (Convention level)</b>	<u>Room no: 5</u> TT:Control System, Robotics and Automation-II <b>Room: Governor General Parlor (2<sup>nd</sup> floor)</b>	<u>Room no: 6</u> TT:Control System, Robotics and Automation-III <b>Room: Tom Thomson (Convention level)</b>	<u>Room no: 7</u> TT: Power Systems and the Smart Grid -I <b>Room: Governor General Main (2<sup>nd</sup> floor)</b>
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#### LUNCH BREAK (1.30PM-2.15PM)

2.15PM-5.30PM	<u>Room no: 1</u> TT: Power Electronics and Energy Conversion-II <b>Room: Jackson (Convention level)</b>	<u>Room no:2</u> TT:Control System, Robotics and Automation-IV <b>Room:Carmichael (Convention level)</b>	<u>Room no:3</u> TT: Renewable Energy Systems- II <b>Room: Casson (Convention level)</b>	<u>Room no:4</u> TT: Motion Control and Mechatronics <b>Room: Varley (Convention level)</b>	<u>Room no:5</u> SS:Advanced Power Electronics for Power Quality in Distributed Systems SS:Impedance-Source Converters for Renewable Energy Conversion Systems <b>Room: Governor General Parlor</b>	<u>Room no:6</u> SS Wireless Sensor Networks Hardware Software Design Aspects for Industry: <b>Room: Tom Thomson (Convention level) (2<sup>nd</sup> floor)</b>	<u>Room no: 7</u> SS Human Factors and System Design in Factory Automation /Innovation and Commercialization in Industrial Electronics <b>Room: Governor General Main (2<sup>nd</sup> floor)</b>
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## Conference schedule (cont.):

### Day 3: Friday, March 24, 2017

8AM-9.30AM	<u>Plenary Talk-III</u> Topic: Power Electronics for Microgrid Interface Speaker: Dr. Jih-Sheng (Jason) Lai, Virginia Polytechnic Institute and State University, Director, Future Energy Electronics Center Blacksburg, VA <b style="color: red;">Room: Toronto I – II (Convention level)</b>			<u>Plenary Talk-IV</u> Topic: High efficient energy conversion for mobile vehicles – contactless power transmission for electric train and series chopper power train for EV Speaker: Dr. Atsuo KAWAMURA Yokohama National University <b style="color: red;">Room: Toronto I – II (Convention level)</b>			
9.30AM-1.30PM	<u>Room no:1</u> TT: Power Electronics and Energy Conversion-III <b style="color: red;">Room: Jackson (Convention level)</b>	<u>Room no:2</u> TT: Industrial Automation, Communication and Informatics-I <b style="color: red;">Room: Carmichael (Convention level)</b>	<u>Room no: 3</u> TT: Signal and Image Processing and Computational Intelligence-II <b style="color: red;">Room: Casson (Convention level)</b>	<u>Room no:4</u> TT: Signal and Image Processing and Computational Intelligence-III <b style="color: red;">Room: Varley (Convention level)</b>	<u>Room no:5</u> TT: Power Systems and the Smart Grid -II <b style="color: red;">Room: Governor General Parlor (2<sup>nd</sup> floor)</b>	<u>Room no:6</u> TT: Electronic System on Chip and Real Time Embedded Control /Real-Time Aspects of Industrial Cyber-Physical Systems <b style="color: red;">Room: Tom Thomson (Convention level)</b>	<u>Room no 7:</u> TT: Power Electronics and Energy Conversion-IV <b style="color: red;">Room: Governor General Main (2<sup>nd</sup> floor)</b>
<b>LUNCH BREAK (1.30PM -2.15PM)</b>							
2.15PM-5.30PM	<u>Room no:1</u> TT: Industrial Automation, Communication and Informatics-II <b style="color: red;">Room: Jackson (Convention level)</b>	<u>Room no:2</u> TT: Cloud Computing, Data Analytics, and Software Engineering <b style="color: red;">Room: Carmichael (Convention level)</b>	<u>Room no:3</u> TT: Renewable Energy Systems-III TT: Energy Storage <b style="color: red;">Room: Casson (Convention level)</b>	<u>Room no:4</u> TT: Power Electronics and Energy Conversion-V <b style="color: red;">Room: Varley (Convention level)</b>	<u>Room no:5</u> SS IoT Technology for Industrial Applications /Dependable Wireless Communication for Industrial IoT <b style="color: red;">Room: Governor General Parlor (2<sup>nd</sup> floor)</b>	<u>Room no:6</u> SS Intelligent Control of Electrified Vehicles <b style="color: red;">Room: Tom Thomson (Convention level)</b>	<u>Room no 7:</u> TT: Industrial Automation, Communication and Informatics-III <b style="color: red;">Room: Governor General Main</b>
6PM-9.30PM	<b style="color: red;">Gala Dinner (Toronto I – II)</b>						

### Day 4: Saturday, March 25, 2017

8AM-9.30AM	<u>Plenary Talk-V</u> Topic: Lightweight, Compact and High Performance Electric Vehicle Powertrain Speaker: Dr. Narayan Kar, Professor and NSERC CRC, University of Windsor. <b style="color: red;">Room: Toronto I – II (Convention level)</b>			<u>Plenary Talk-VI</u> Topic: Hardware in the loop testing, the key enabling technology for the rapid transformation of power systems and electrification transportation Speaker: Ivan Celanovic Chief Business Development Officer and Co-Founder of Typhoon-HIL, Inc. <b style="color: red;">Room: Toronto I – II (Convention level)</b>			
9.30AM-1.30 PM	<u>Room no:1</u> TT:Transportation Electrification and Vehicle Systems <b style="color: red;">Room: Jackson (Convention level)</b>	<u>Room no:2</u> TT:Electric Machines and Drives-I <b style="color: red;">Room: Carmichael (Convention level)</b>	<u>Room no:3</u> SS Industrial Wireless Networking <b style="color: red;">Room: Casson (Convention level)</b>	<u>Room no:4</u> TT:Electric Machines and Drives-II SS Energy Efficient Control of Converters and AC Drives <b style="color: red;">Room: Tom Thomson (Convention level)</b>	<u>Tutorial –VI</u> Topic: Tiny Energy-Harvesting Piezoelectric Chargers Speaker: Dr Gabriel A. Rincón-Mora Professor Georgia Institute of Technology <b style="color: red;">Room: Varley (Convention level)</b>		
<b>LUNCH BREAK (1.30PM -2.15PM)</b>							
2.15 PM-4.30 PM	<u>Room no:1</u> <b style="color: red;">Room: Jackson (Convention level)</b>	<u>Room no:2</u> <b style="color: red;">Room: Carmichael (Convention level)</b>	<u>Room no:3</u> SS Wireless Power Transfer for Industrial Electronics <b style="color: red;">Room: Casson (Convention level)</b>	<u>Room no:4:</u> TT: Sensors, Actuators, System Integration and Nano-Technologies <b style="color: red;">Room : Tom Thomson (Convention level)</b>			

**Day 1: 22nd March 2017  
(Thursday)**

**Day1: 22<sup>nd</sup> March 2017 (Wednesday)**

**Morning Session**

**Tutorials**

TUTORIALS	SPEAKERS	TOPIC	TIME	ROOM
Tutorial-I	Dr. Sunny R Desai	<b>Cyber Security threats, measures and control in a process plant</b>	10 AM-1PM	Governor General Main (2 <sup>nd</sup> floor)
Tutorial-II	Dr. Muhammad Alam	<b>Internet of Things for Sustainable Future Smart Buildings</b>	10 AM-1PM	Richmond (3 <sup>rd</sup> floor)
Tutorial-III	Dr. Morcous	<b>Dynamic Virtual Organizations Constriction Framework</b>	10 AM-1PM	Governor General Parlor (2 <sup>nd</sup> floor)
		LUNCH BREAK	1PM-2PM	

Workshop	Dr. Nihal Kularatna and Dr. Marc Perron	Research-led Innovation into Commercialization	10 AM-1PM	Casson (conventional floor –one floor behind lobby)
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**Day1: 22<sup>nd</sup> March 2017 (Wednesday)**

**Afternoon Session**

TUTORIALS	SPEAKERS	TOPIC	TIME	ROOM
Tutorial-IV	Dr. Eric Cheng Professor and director of Power Electronics Research Centre of the university.	<b>Battery / Super-capacitor Management Systems</b>	2PM-5PM	Richmond (3 <sup>rd</sup> floor)
Tutorial-V	Dr. Mikael Gidlund, Professor in Computer Engineering Mid Sweden University  Dr Johan Åkerberg senior principal scientist ABB Corporate Research  Dr Tomas Lennvall, Senior Expert Swedish Institute for Computer Science	<b>Industrial Wireless Networking – Status, Challenges and Opportunities</b>	2PM-5PM	Governor General Parlor (2 <sup>nd</sup> floor)

**Day 2: 23rd March 2017  
(Thursday)  
Morning Session**

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Morning Session**

**Plenary Talks:**

PLENARY TALKS	SPEAKERS	TOPIC	TIME	ROOM
Plenary Talk-I	Dr. Mo El-Hawary Professor, Dalhousie University	<b>Issues and Challenges in Autonomous Micro-grids</b>	8.00 AM-8.45AM	Toronto I – II (convention level)
Plenary Talk-II	Dr. K. GopaKumar, Professor Indian Institute of Science (IISc)	<b>Multilevel Inverters for Induction Motor Drives and Grid Connected Applications</b>	8.45 AM-9.30AM	Toronto I – II (convention level)

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Morning Session**

**TT: Power Electronics and Energy Conversion –Session I**  
**23<sup>rd</sup> March 2017**

**Session chairs: Dr. Hadi Kanaan, Dr. Hani Vahedi**  
**Room: Jackson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-007625	<b>Three Phase One Switch Modular-Boost/Vienna Power Factor Corrected (PFC) Rectifier</b>	9.30 AM
2.	TD- 000477	<b>Microgrid Design with Renewable Energy Sources and Storage based on Power Conditioning System for Autonomous Island Operation</b>	9.50 AM
3.	TD-007668	<b>A Modular One-Switch Three-Phase Single Ended Primary Inductor (SEPIC) Rectifier</b>	10.10 AM
4.	TD-004618	<b>Experimental Stability Analysis of an Electromagnetic Levitation Melting System fed by a Series Resonant Converter</b>	10.30AM
5.	TD-002429	<b>Analysis and Control of a High Voltage Ratio and Low Stress DC-DC Converter for Fuel Cell Applications</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-002909	<b>Novel symmetric and asymmetric topology of multilevel inverter with reduced number of switches</b>	11.30 AM
7.	TD-003646	<b>A Novel DVR Based on Parallel-Connected Diode-Clamped Modular Multilevel Converters</b>	11:50 AM
8.	TD-001368	<b>Interleaved High Step-Up DC-DC Converter With Parallel-Input Series-Output Configuration and Voltage Multiplier Module</b>	12:10 PM
9.	TD-004014	<b>A Novel Series Input Parallel Output Soft-Switching High Step-Down Converter: Analysis and Implementation</b>	12.30 PM
10.	TD-006335	<b>Low-Power DC Energy Conversion System Based on a Novel Single-Switch Current-Fed Series-Parallel Resonant Converter</b>	12.50 PM
		<b>LUNCH BREAK</b>	1.30 PM-2.15 PM

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Morning Session**

**TT: Control System, Robotics and Automation –Session I**  
**23<sup>rd</sup> March 2017**

**Session chairs: Dr. Eric Cheng and Dr. Sungbok Kim**  
**Room: Carmichael (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-002585	<b>Attitude Control of Re-entry Vehicles Using Adaptive SDRE Technique</b>	9.30 AM
2.	TD-002658	<b>Model based path planning using Q-Learning</b>	9.50 AM
3.	TD-000132	<b>Visual Servoing Based Pickup of Stationary Objects with a Dynamically Controlled Manipulator</b>	10.10 AM
4.	TD-000876	<b>Geogebra as a tool of design of ultrafast and robust controller</b>	10.30AM
5.	TD-001589	<b>Two Practical Simulators of a Traveling Mobile Robot Equipped with Optical Mice and Their Optimal Parameter Setting</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-001686	<b>Optimal collision free path planning for an autonomous articulated vehicle with two trailers</b>	11.30 AM
7.	TD-001708	<b>Bidirectional Fuzzy PD Control for Active Vibration Control of Building Structure</b>	11:50 AM
8.	TD-002348	<b>Adaptive Nonlinear Sliding Mode Control with a Nonlinear Sliding Surface for Feed Drive Systems</b>	12:10 PM
9.	TD-002461	<b>Minimizing rework costs in multistage production processes by modifying quality specification limits</b>	12.30 PM
		<b>LUNCH BREAK</b>	1.30 PM-2.15 PM



**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Morning Session**

**TT: Renewable Energy Systems–Session I**  
**23<sup>rd</sup> March 2017**

**Session chairs: Dr. Timothy M. Hansen and Dr. Adel Nasiri**  
**Room: Casson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-000698	<b>Deterministic and Probabilistic Wind Power Forecasting Using a Hybrid Method</b>	9.30 AM
2.	TD-005215	<b>High Gain Grid Connected Single Stage Inverter System with Reactive Power Control</b>	9.50 AM
3.	TD-001619	<b>Generation Reliability Assessment of Stand-Alone Hybrid Power System - A Case Study</b>	10.10 AM
4.	TD-002194	<b>Using PHES to Facilitate Wind Power Integration In Isolated Systems – Case Study</b>	10.30AM
5.	TD-004871	<b>A Stand-Alone Hybrid Renewable Energy System Assessment Using Cost Optimization Method</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
7.	TD-005215	<b>High Gain Grid Connected Single Stage Inverter System with Reactive Power Control</b>	11.30 AM
8.	TD-005649	<b>Probabilistic Reliability Evaluation for Power Systems with High Penetration of Renewable Power Generation</b>	11:50 AM
9.	TD-006696	<b>A Novel Flicker-free AC-DC LED Driver Without Electrolytic Capacitor</b>	12:10 PM
10.	TD-006718	<b>Power density driven design methodology of power converters for photovoltaic applications</b>	12.30 PM
		<b>LUNCH BREAK</b>	1.30 PM-2.15 PM

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Morning Session**

**TT: Signal and Image Processing and Computational Intelligence –Session I**  
**23<sup>rd</sup> March 2017**

**Session chairs: Dr. Luis Gomes and Dr. Juanjo**  
**Room: Varley (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-000051	<b>Driving Event Detection and Driving Style Classification using Artificial Neural Networks</b>	9.30 AM
2.	TD-003921	<b>Proportional Data Clustering using K-Means Algorithm: A comparison of different distances</b>	9.50 AM
3.	TD-001058	<b>Image Super-resolution via Weighted Random Forest</b>	10.10 AM
4.	TD-000701	<b>Real-time signal frequency analysis in variable speed drives using the sparse fast Fourier transform (sFFT)</b>	10.30AM
5.	TD-004499	<b>Unsupervised Learning of Finite Mixtures using Scaled Dirichlet Distribution and its Application to Software Modules categorization</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-001503	<b>Combining convolutional neural network and self-adaptive algorithm to defeat synthetic multi-digit text-based CAPTCHA</b>	11.30 AM
7.	TD-001805	<b>Integrating Spectral and Spatial Features for Hyperspectral Image Classification Using Low-Rank Representation</b>	11:50 AM
8.	TD-001813	<b>Rolling Fault Diagnosis via Robust Semi-supervised Model with Capped <math>L_{2,1}</math>-Norm Regularization</b>	12:10 PM
		<b>LUNCH BREAK</b>	1.30 PM-2.15 PM

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Morning Session**

**TT: Control System, Robotics and Automation –Session II**  
**23<sup>rd</sup> March 2017**

**Session chairs: Dr. Qining Wang and Dr.Yigeng Huangfu**

**Room: Governor General Parlor (2<sup>nd</sup> floor)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-008931	<b>Design and control of a sit-to-stand assistive device via EtherCAT fieldbus</b>	9.30 AM
2.	TD-004731	<b>Sliding Mode Control of Under actuated Five-Link Biped Robot for Climbing Stairs Based on Real Human Data</b>	9.50 AM
3.	TD-004804	<b>Design and Optimization of a Tendon-driven Robotic Hand</b>	10.10 AM
4.	TD-004162	<b>A fermenter model based on neural networks experimentally validated</b>	10.30AM
5.	TD-004022	<b>Robust and High-mobility Walking Control for Uneven Terrain without Zero-Moment-Point Feedback</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-005584	<b>Cointegration Analysis for IMU in a Fixed-Wing UAV</b>	11.30 AM
7.	TD-005789	<b>Mechatronic Design of An Ankle-Foot Rehabilitation Robot for Children with Cerebral Palsy and Preliminary Clinical Trial</b>	11:50 AM
8.	TD-005991	<b>Analysis of Virtual Environment Haptic Robotic Systems for a Rehabilitation of Post-Stroke Patients</b>	12:10 PM
9.	TD-003069	<b>Uncertain nonlinear system control with Fuzzy Differential Equations and Z-numbers</b>	12.30 PM
10.	TD-005568	<b>Adaptive Genetic Neuro-Fuzzy Attitude Control for a Fixed Wing UAV</b>	12.50 PM
		<b>LUNCH BREAK</b>	1.30 PM-2.15 PM

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Morning Session**

**TT: Control System, Robotics and Automation –Session III**  
**23<sup>rd</sup> March 2017**

**Session chairs: Dr. Vijay pasupuleti and Dr. Lingxue Ren**  
**Room: Tom Thomson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-007536	<b>Modified State Predictive Control of Continuous-Time Systems with Input Delay</b>	9.30 AM
2.	TD-007951	<b>Event Triggered Control of Singularly Perturbed Linear System Based on Its Slow and Fast Model</b>	9.50 AM
3.	TD-007994	<b>A Cyber-Attack on Communication Link in Distributed Systems and Detection Scheme Based on H-Infinity Filtering</b>	10.10 AM
4.	TD-008877	<b>A Novel Adaptive Controller Using Radial Basis Function Neural Network for Wind Turbines</b>	10.30AM
5.	TD-008923	<b>Neural-Adaptive Back stepping for Flexible-Joint Robots with neither Extra Parameters, Extra Networks, nor Robust Terms</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-009717	<b>A New Geometric Solution for Inverse Kinematics of Hyper-Redundant Snake Robot used in Real-Time Teleoperated Surgery</b>	11.30 AM
7.	TD-010677	<b>FAT-based Robust Adaptive Control of Flexible-Joint Robots: Singular Perturbation Approach</b>	11:50 AM
8.	TD-010324	<b>Dynamic Grinding Manipulation Based on Removal Volume Rate Control</b>	12:10 PM
9.	TD-011797	<b>Adaptive Formation Control of Robot Swarms using Optimized Potential Field Method</b>	12.30 PM
10.	TD-004162	<b>A fermenter model based on neural networks experimentally validated</b>	12.50 PM
		<b>LUNCH BREAK</b>	1.30 PM-2.15 PM

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Morning Session**

**TT: Power system and Smart Grid- Session I**  
**23<sup>rd</sup> March 2017**

**Room: Governor General Main (2<sup>nd</sup> floor)**

**Session chairs: Dr. Babak Nahid and Dr. Hatem Zeineldin**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-000302	<b>A Novel Generic Architecture for the Implementation of Demand Response Programs in a Smart Grid</b>	9.30 AM
2.	TD-001341	<b>Towards a framework for cyber attack impact analysis of electric cyber physical systems</b>	9.50 AM
3.	TD-001953	<b>Integration of Step Voltage Regulators in Islanded Microgrids</b>	10.10 AM
4.	TD-002968	<b>An Adaptive P-f Droop Approach for Micro-grid Transition Detection</b>	10.30AM
5.	TD-002984	<b>Smart Distribution Systems Stakeholders Analysis and The Effects on Long-Term Planning</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-004391	<b>Security and Reliability Analysis of A Use case in Smart Grid Substation Automation Systems</b>	11.30 AM
7.	TD-005576	<b>Coordinated Design of PSS and TCSC Controllers using Colonal selection algorithm for stability enhancement of dynamical power system</b>	11:50 AM
8.	TD-004375	<b>Secure Layer 2 Tunneling Over IP for GOOSE-based Logic Selectivity</b>	12:10 PM
		<b>LUNCH BREAK</b>	1.30 PM-2.15 PM

**Day 2: 23rd March 2017  
(Thursday)  
Afternoon Session**

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Afternoon Session**

**TT: Power Electronics and Energy Conversion–Session II**  
**23<sup>rd</sup> March 2017**

**Session chairs: : Dr. Marcelo Perez and Dr. Mohameed Uddin**  
**Room: Jackson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-007633	<b>Diode-Bridge Enclosed One Switch Three-Phase Power Factor Corrected (PFC) Ćuk Rectifier</b>	2.15 PM
2.	TD-004693	<b>Single-Input, Dual Polarity, Dual Output DC-DC Converter Implementation Based on the SCALDO Technique</b>	2.35 PM
3.	TD-004766	<b>Back-to-back MOSFET switches to reduce the losses in SCALDO implementation</b>	2.55 PM
4.	TD-011363	<b>Discrete Sliding Mode control of Single Phase LCL Grid-Inverter</b>	3.15 PM
5.	TD-002356	<b>Study on Quasi Resonant Grid-connected Current Compensation Method with Controllable Switching Period</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM
6.	TD-005436	<b>Modeling and generalization of parallel multilevel converter for the design of the closed loop controller</b>	4.10 PM
7.	TD-005797	<b>Virtual Delay Unit Based Digital <math>n\pm m</math>-order Harmonic Repetitive Controller for PWM Converter</b>	4.30 PM

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Afternoon Session**

**TT: Control System, Robotics and Automation –Session IV**  
**23<sup>rd</sup> March 2017**

**Session chairs: Dr. Eric Cheng and Dr.Yigeng Huangfu**  
**Room: Carmichael (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-002593	<b>Fractional Order Sliding Mode Controller for a Solid-core Magnetic Bearing System</b>	2.15 PM
2.	TD-001627	<b>Local Stability of Flat-Foot Dynamic Bipedal Walking with Compliant Joints</b>	2.35 PM
3.	TD-002844	<b>Efficient control of automotive R744 heat pump using Nelder-Mead simplex method</b>	2.55 PM
4.	TD-002895	<b>Universal Dynamic Tracking Control Law for Mobile Robot Trajectory Tracking</b>	3.15 PM
5.	TD-002925	<b>Edge Deletion Algorithm for Minimally Rigid Graph using Consensus Protocols</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM
6.	TD-003328	<b>Multirate Output Feedback Based Discrete- Time Sliding Mode Control for Fractional Delay Compensation in NCSs</b>	4.10 PM
7.	TD-003824	<b>Experimental implementation of loop closure detection using data dimensionality reduction by spectral method</b>	4.30 PM
8.	TD-005312	<b>Simplified Decoupling based control for processes having complex EOTF dynamics</b>	4.50 PM



**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Afternoon Session**

**TT: Renewable Energy Systems–Session II**  
**23<sup>rd</sup> March 2017**

**Session chairs: Dr. Hatem Zeineldin and Dr.Ehab El-saadany**  
**Room: Casson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-007943	<b>Active and Reactive Power Support of MV Distribution Systems using Battery Energy Storage</b>	2.15 PM
2.	TD-009385	<b>ECO: An IoT platform for wireless data collection, energy control and optimization of a miniaturized wind turbine cluster Power analysis and Energy model of IoT platform</b>	2.35 PM
3.	TD-009628	<b>Electromagnetic Induction Generator toward Energy Harvesting for Dynamic Systems</b>	2.55 PM
4.	TD-009784	<b>An Adaptive Transmission Line Protection and Modelling of Numerical Distance relay with Analog Antialiasing Filter</b>	3.15 PM
5.	TD-010138	<b>A Data Driven Model for Accurate SOC Estimation in EVs</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM
6.	TD-010243	<b>Automated Cleaning of Wind Turbine Blades With No Downtime</b>	4.10 PM
7.	TD-010375	<b>Nonlinear Control of permanent magnet synchronous generator Applied to Wind Energy Conversion System Grid-Connected</b>	4.30 PM
8.	TD-010936	<b>Improvement of Power Quality using an Average Model of a New Hybrid PV-DSTATCOM</b>	4.50 PM

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Afternoon Session**

**TT: Motion Control and Mechatronics**  
**23<sup>rd</sup> March 2017**

**Session chairs: Dr. Qining Wang and Dr. Sungbok Kim**  
**Room : Varley (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-000965	<b>Disturbance Suppression Considering a Circle System for Rotational Work</b>	2.15 PM
2.	TD-001171	<b>PI consensus-based motor synchronization with input saturations</b>	2.35 PM
3.	TD-002372	<b>Micro/Macro-Positioning Control of a Novel Contactless Active Robotic Joint Using Active Magnetic Bearing</b>	2.55 PM
4.	TD-002623	<b>Kinematics for distance-based roll and pitch estimation in unmanned aerial vehicles</b>	3.15 PM
5.	TD-007307	<b>Balloon actuators based on the dielectric elastomer</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM
6.	TD-008427	<b>Contact Force Control of Dual-Rotor Helicopter with Protect Frame</b>	4.10 PM
7.	TD-011266	<b>Weight Estimation System Using Surface EMG Armband</b>	4.30 PM
8.	TD-011312	<b>New State Observer Gain Tuning Methodology Based on the Stable Margin Theory</b>	4.50 PM

**Day2: 23<sup>rd</sup> March 2017 (Thursday)  
Afternoon Session**

**SS: Advanced Power Electronics for Power Quality in Distributed Systems**

**Room: Governor General Parlor (2<sup>nd</sup> floor)**

**23<sup>rd</sup> March 2017**

**Session chairs : Dr. Reinaldo Tonkoski and Dr. Haitham Abu-Rub**

S.NO	PAPER ID	PAPER TITLE	TIME
1.	TD-007323	<b>Grid Tie Indirect Matrix Converter Operating with Unity Power Factor Under Double Space Vector Modulation</b>	2.15 PM
2.	TD-010839	<b>Modeling and Control to Enhance a Grid On/Off Operation of a Single-Phase System</b>	2.35 PM
3.	TD-013153	<b>A Simple Closed-Loop Control Scheme for Modular Multilevel Converters</b>	2.55 PM
4.	TD-010812	<b>An Enhanced Standalone Single-Phase System with a SPFLI with a Resonant Controller</b>	3.15 PM
5.	TD-009105	<b>Nine-level Asymmetrical Single Phase Multilevel Inverter Topology with Low Switching Frequency and Reduce Device Counts</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM
6.	TD-013358	<b>Harmonic Power Flow in Unbalanced and Polluted Radial Distribution Systems</b>	4.10 PM
7.	TD-009911	<b>Photovoltaic System Modeling and Simulation</b>	4.30 PM
8.	TD-013013	<b>A Hybrid Maximum Power Point Tracking Method for Photovoltaic Applications with Reduced Offline Measurements</b>	4.50 PM

**SS: Impedance-Source Converters for Renewable Energy Conversion Systems**

**Room: Governor General Parlor**

**23<sup>rd</sup> March 2017**

1.	TD-011924	<b>A Model Predictive Control for Low-Frequency Ripple Power Eliminate of Active Power Filter Integrated Single-Phase Quasi-Z-Source Inverter</b>	5.10 PM
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**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Afternoon Session**

**SS Wireless Sensor Networks Hardware Software Design Aspects for Industry**  
**Room: Tom Thomson (convention level)**  
**Session chairs: Dr. Mert Bal and Dr. Appala Ray**  
**23<sup>rd</sup> March 2017**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-011703	<b>On-Body Signal Propagation in WBAN for Firefighter's Personal Protective Equipment: Statistical Characterization and Performance Assessment</b>	2.15 PM
2.	TD-011789	<b>We-Care: An IoT-based Health Care System for Elderly People</b>	2.35 PM
3.	TD-012041	<b>Distributed Home Automation System Based on IEC61499 Function Blocks and Wireless Sensor Networks</b>	2.55 PM
4	TD-012467	<b>SWSN: A Safe Wireless Sensor Network Module for Fail-Silent Systems</b>	3.15 PM
5	TD-012114	<b>A System for Monitoring Hand Hygiene Compliance based-on Internet-of-Things</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55-4.10 PM
6.	TD-001724	<b>Planar Inverted-F Antenna Design for a Fully Implantable Mechanical Circulatory Support System</b>	4.10 PM
7.	TD-002003	<b>A Reconfigurable Scheme of Wireless Power Transmission in Fully-enclosed Box</b>	4.30 PM

**Day2: 23<sup>rd</sup> March 2017 (Thursday)**  
**Afternoon Session**

**SS Human Factors and System Design in Factory Automation**  
**Room: Governor General Main (2<sup>nd</sup> floor)**  
**Session chairs: Dr. Sho Yokata and Dr. Nihal kulratna**  
**23<sup>rd</sup> March 2017**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-012629	<b>Development of Standing Assistive Walker for Domestic Use</b>	2.15 PM
2.	TD-009946	<b>Proposal of Communication Robot With Simple Motions</b>	2.35 PM
3.	TD-012297	<b>SeTTLE code --- a 2D code for 6-dof localization and its implementation on Android smartphone</b>	2.55 PM
4.	TD-012734	<b>A Novel Bayesian Network-Based Fault Prognostic Method for Semiconductor Manufacturing Process</b>	3.15 PM
5.	TD-012521	<b>Inflatable Arm with Rigidity for Safe Robots - 1st report : Proposal of Joint Structure -</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55-4.10 PM

**SS Innovation and Commercialization in Industrial Electronics**  
**Room: Governor General Main**  
**23<sup>rd</sup> March 2017**

1.	TD-012424	<b>Smart Wearable Technologies: Current Status and Market Orientation Through a Patent Analysis</b>	4.10 PM
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**Day 3:24th March 2017  
(Friday)  
Morning Session**

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Morning Session**

**Plenary Talks:**

PLENARY TALKS	SPEAKER	TOPIC	TIME	ROOM
Plenary Talk-III	Dr. Jih-Sheng (Jason) Lai, Virginia Polytechnic Institute and State University, Director, Future Energy Electronics Center Blacksburg, VA	<b>Power Electronics for Micro-grid Interface</b>	8.00 AM-8.45AM	Toronto I – II (convention level)
Plenary Talk-IV	Dr. Atsuo KAWAMURA Yokohama National University	<b>High efficient energy conversion for mobile vehicles – contactless power transmission for electric train and series chopper power train for EV</b>	8.45 AM-9.30AM	Toronto I – II (convention level)

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Morning Session**

**TT: Power Electronics and Energy Conversion –Session III**  
**24<sup>th</sup> March 2017**

**Session chairs: Dr. Farzad Rajaei Salmasi and Dr. Seima Shili**  
**Room: Jackson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-005401	<b>Capacitor Voltage Balancing Method for Modular Multilevel Converter with Flying Capacitor Submodules</b>	9.30 AM
2.	TD-002666	<b>Photocatalytic Reactor with Multiphase Digital Control of Luminous Radiation</b>	9.50 AM
3.	TD-006491	<b>Microcontroller-Controlled Constant Current DC-DC Converter Modules for Driving a Multi-Wavelength LED Array</b>	10.10 AM
4.	TD-011762	<b>Validation of Inductors Sustainable-Saturation-Operation in Switching Power Supplies Design</b>	10.30AM
5.	TD-000418	<b>Design and Implementation of Feedback Controllers for A Power Converter Employing Three-Terminal Switch Mode</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-003778	<b>Study on Hybrid SVPWM sequences for Two level VSIs</b>	11.30 AM
7.	TD-007986	<b>New dc-link Balancing Algorithm for Multilevel Inverter in Photovoltaic System</b>	11:50 AM
8.	TD-008281	<b>Research on the Integrated Braking Energy Recovery Strategy Based on Super-capacitor Energy Storage</b>	12:10 PM
9.	TD-008389	<b>Research of the Loss and Gate Desaturation Control for RC-IGBT Used in Vehicle Power Converters</b>	12:10 PM
10.	TD-008605	<b>Programmable Digital IC for Sub-Nanosecond Dead-Time Adjustment Used in Synchronous Switching DC-DC Converters</b>	12.50 PM
		<b>LUNCH BREAK</b>	1.30 -2.15 PM



**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Morning Session**

**TT: Industrial Automation, Communication and Informatics –Session I**  
**24<sup>th</sup> March 2017**

**Session chairs : Dr. Zhang Haijun and Dr. Xizheng Guo**  
**Room: Carmichael (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-000787	<b>An Intelligent Maintenance Planning Framework Prototype for Production Systems</b>	9.30 AM
2.	TD-000795	<b>Surveying the Features of Industrial SOAs</b>	9.50 AM
3.	TD-001244	<b>Development of an Engine Control Unit: Implementation of the Architecture of Tasks</b>	10.10 AM
4.	TD-002038	<b>A workflow support system for the process and automation engineering of production plants</b>	10.30AM
5.	TD-009679	<b>Translating IOPT Petri net models into PLC ladder diagrams</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-004308	<b>Handling Strategy of Dynamic Resource Events in Cyber-Physical Production Systems by a Multi-Criterial and Multi-Operational Approach</b>	11.30 AM
7.	TD-004545	<b>CLEAR - A Circuit Level Electric Appliance Radar for the Electric Cabinet</b>	11:50 AM
8.	TD-005126	<b>Towards an Integrated Plant Engineering Process Using a Data Conversion Tool for AutomationML</b>	12:10 PM
9.	TD-005452	<b>Model-Document Coupling in aPS Engineering: Challenges and Requirements Engineering Use Case</b>	12.30 PM
		<b>LUNCH BREAK</b>	1.30 PM-2.15 PM

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Morning Session**

**TT: Signal and Image Processing and Computational Intelligence –Session II**  
**24<sup>th</sup> March 2017**

**Session chairs: Dr. Xianping Fu and Dr. Zheng Liu**

**Room: Casson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-007293	<b>The Demodulation Algorithm of Track Frequency Shift Signal Based on Windowed Interpolation FFT</b>	9.30 AM
2.	TD-004537	<b>Smoke Detection Using Simplified Descriptors of Video Information</b>	9.50 AM
3.	TD-004049	<b>When Sensor Meets Face: Facial Angle Model with Sensor Device</b>	10.10 AM
4.	TD-004057	<b>Convolutional Networks for Voting-based Anomaly Classification in Metal Surface Inspection</b>	10.30AM
5.	TD-004103	<b>Fusion-based underwater image enhancement by wavelet decomposition</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-013242	<b>A Quantitative Method for Selecting Denoising Filters, Based on a new Edge-Sensitive Metric</b>	11.30 AM
		<b>LUNCH BREAK</b>	1.15 PM-2.15 PM

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Morning Session**

**TT: Signal and Image Processing and Computational Intelligence –Session III**  
**24<sup>th</sup> March 2017**

**Session chairs: Dr. Nizar Bouguila and Dr. Akshaya Mishra**  
**Room: Varley (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-007331	<b>Prognostics of Damage Growth in Composite Material Using Machine Learning Techniques</b>	9.30 AM
2.	TD-009652	<b>Multi-Class SVM Based Gradient Feature for Banknote Recognition</b>	9.50 AM
3.	TD-010162	<b>VeNICE: A Very Deep Neural Network Approach to No-Reference Image Assessment</b>	10.10 AM
4.	TD-013285	<b>Far-field light imaging in the presence of atmospheric turbulence with rotating anti-phase apertures: theoretical investigation</b>	10.30AM
5.	TD-010448	<b>Tactile Texture Recognition using Convolutional Neural Networks for Time-series data of Pressure and 6-axis Acceleration Sensor</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-011681	<b>Recent Advances in Features Extraction and Description Algorithms: A Comprehensive Survey</b>	11.30 AM
7.	TD-011878	<b>Detection and Tracking of Targets under Low SNR</b>	11:50 AM
8.	TD-012025	<b>On the Applicability of Inverse Perspective Mapping for the Forward Distance Estimation based on the HSV Color Map</b>	12:10 PM
		<b>LUNCH BREAK</b>	1.30 PM-2.15 PM

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Morning Session**

**TT: Power system and Smart Grid - Session II**  
**24th March 2017**

**Session chairs: Dr. Hany Farag and Dr. Hatem Zeineldin**  
**Room: Governor General Parlor (2<sup>nd</sup> floor)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-005681	<b>Optimal Power Flow for Converter-Dominated AC/DC Hybrid Microgrids</b>	9.30 AM
2.	TD-013234	<b>Dynamic VAR Planning for Rotor-Angle and Short-Term Voltage Stability Enhancement</b>	9.50 AM
3.	TD-007692	<b>Taylor Series Approximation of ZIP Model for On-line Estimation of Residential Loads Parameters</b>	10.10 AM
4.	TD-008869	<b>Stabilization of A Distributed Generation Unit with Constant Power Load in Islanding Mode</b>	10.30AM
5.	TD-008443	<b>Domestic Peak-load Management Including Vehicle-to-Grid and Battery Storage Using an Artificial Neural Network</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-009695	<b>Classification of Generators Participating in the Bulk-Power Market</b>	11.30 AM
7.	TD-011371	<b>A semi-synthetic dataset development tool for household energy consumption analysis</b>	11:50 AM
		<b>LUNCH BREAK</b>	<b>1.30 -2.15 PM</b>

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Morning Session**

**TT: Electronic System on Chip and Real Time Embedded Control**  
**24th March 2017 - Day 3**  
**Session chairs: Dr. Apala Ray and Dr. Max Mauro Santos**  
**Room : Tom Thomson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-013293	<b>Characterization of FPGA-Master ARM Communication Delays in Xilinx Zynq Devices</b>	9.30 AM
2.	TD-001201	<b>Hardware Implementation of Enhanced Virtual Release Advancing Algorithm for Real-Time Task Scheduling</b>	9.50 AM
3.	TD-002887	<b>Universal Real-Time Control Framework and Internet of Things for Fast-Paced Research and Development based Production Environments</b>	10.10 AM
4.	TD-002917	<b>National Instrument-Based Experimental Validation of a Nonlinear Real-Time Induction Motor Model in an EV Simulation System</b>	10.30AM
5.	TD-004227	<b>Control and Monitoring Systems Update for Thermal Printers</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM

**SS Real-Time Aspects of Industrial Cyber-Physical Systems**  
**24th March 2017 - Day 3**  
**Room : Tom Thomson (convention level)**

1.	TD-012327	<b>Supporting Security Protocols on CAN-Based Networks</b>	11:30 AM
2.	TD-012432	<b>RTOS Support in C-Language Toolchains</b>	11:50 AM

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Morning Session**

**Power Electronics and Energy Conversion –Session IV**  
**24th March 2017 - Day 3**  
**Session chairs : Dr. Hadi Kannan and Dr. Hani vahedi**  
**Room: Governor General Main (2<sup>nd</sup> floor)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-009172	<b>Turn-off Energy Minimization for Soft-Switching Power Converters with Wide Bandgap Devices</b>	9.30 AM
2.	TD-009431	<b>Experimental Verification of Virtual Inertia in Diesel Generator based Microgrids</b>	9.50 AM
3.	TD-009458	<b>Stator-Flux-Oriented Sliding Mode Controller for DFIG with Variable Hysteresis Loop for Limiting Switch Frequency of Rotor-Side Power Converter</b>	10.10 AM
4.	TD-009857	<b>A Cost-Effective Technique for Dynamic Testing of DC-DC Power Supplies</b>	10.30AM
5.	TD-010006	<b>Investigation of Load Parasitic Inductance on Switching Performance of SiC MOSFETs in a Switching Power Pole</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-010413	<b>Application of Y-cap on Noise Attenuation in Low Power Part of Power Converter</b>	11.30 AM
7.	TD-010715	<b>A Filterless Single-Phase AC-AC Converter Based on T-Structure with Shared Ground and Continuous Input Current</b>	11:50 AM
8.	TD-010774	<b>IGBT Open-Circuit Fault Diagnosis Based on the Current Prediction in the Line-Side AC/DC Converter</b>	12:10 PM
9.	TD-009881	<b>A Generalized Formulation of SHM-PAM for Cascaded H-Bridge Inverters with Non-Equal DC Sources</b>	12.30 PM
10.	TD-010332	<b>General Impedance Representation of Passive Devices Based on Measurement</b>	12.50 PM
		<b>LUNCH BREAK</b>	1.30 -2.15 PM

**Day 3:24th March 2017  
(Friday)  
Afternoon Session**

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Afternoon Session**

**TT: Industrial Automation, Communication and Informatics –Session II**  
**24th March 2017**

**Session chairs : Dr. Xizheng Guo and Dr.Chowdhury Andalib-Bin-Karim**  
**Room: Jackson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-006149	<b>Research and Design of MVB Bus Administrator Based on SOPC Technology</b>	2.15 PM
2.	TD-006165	<b>A Flexible Architecture for Data Mining from Heterogeneous Data Sources in Automated Production Systems</b>	2.35 PM
3.	TD-006564	<b>Development of the Cross-Linked Integrated Information System</b>	2.55 PM
4.	TD-006599	<b>Generating metamodel-based descriptions of automation components in AutomationML</b>	3.15 PM
5.	TD-003735	<b>New Method for Definition of Organized Driving Chains in Industrial Product Model</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM
6.	TD-005606	<b>A Flexible Communication Stack Design for Time Sensitive Embedded Systems</b>	4.10 PM



**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Afternoon Session**

**TT: Cloud Computing, Data Analytics, and Software Engineering**  
**24<sup>th</sup> March 2017**

**Session chairs : Dr.Thu-Trang Nguyen and Dr. Kim Fung Tsang**  
**Room : Carmichael (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-007358	<b>Designing Combo Recharge Plans for Telecom Subscribers using Itemset Mining Technique</b>	2.15 PM
2.	TD-010502	<b>Job Seeker to Vacancy Matching using Social Network Analysis</b>	2.35 PM
3.	TD-003743	<b>Anomaly Detection in Self-Organizing Industrial Systems Using Pathlets</b>	2.55 PM
4.	TD-004596	<b>Improving Collaborative Filtering by Selecting an Effective User Neighborhood for Recommender Systems</b>	3.15 PM
5.	TD-006246	<b>Distributed Data Recovery Architecture Based on Schema Segregation</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM
6.	TD-006661	<b>Sensor SelComp, a Smart Component for the Industrial Sensor Cloud of the future</b>	4.10 PM

**Day 3 : 24<sup>th</sup> March 2017 (Friday)  
Afternoon Session**

**Renewable Energy Systems–Session III  
24<sup>th</sup> March 2017**

**Session chairs : Dr.Ali sari and Dr. Reinaldo Tonkoski  
Room: Casson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-011207	<b>A novel control strategy for ORC system with unsteady heat source</b>	2.15 PM
2.	TD-011258	<b>A Flux coupling Type Superconducting Fault Current Limiter in a Transmission and Wind Energy system</b>	2.35 PM
3.	TD-011606	<b>New Adapted Forms of P-V Optimal Slope MPPT For a Better Grid Connected PV System Integration</b>	2.55 PM
4.	TD-013056	<b>Double Voltage Step-up Photovoltaic Microinverter</b>	3.15 PM
5.	TD-012262	<b>Explicit Double-exponential Modeling Methods for Photovoltaic Cells</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM

**TT: Energy Storage  
24 March 2017  
Room: Casson**

1.	TD-010545	<b>Application of Two Stage Rate Limit Control for Different Operating Modes of Battery</b>	4.10 PM
2.	TD-012726	<b>Online Lithium-ion Batterie Health Monitoring Using Balancing Circuits</b>	4.30 PM

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Afternoon Session**

**Power Electronics and Energy Conversion –Session V**  
**24<sup>th</sup> March 2017**

**Session chairs: Dr. Marcelo Perez and Dr. Appa rao dekka**  
**Room: Varley (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-004286	<b>Predictive Current Control for Neutral-Point Voltage Regulation and Load Balancing In Three-Level Grid Connected Compensator</b>	2.15 PM
2.	TD-006017	<b>Exploring a Modulation Strategy by Experiments for Modular Multilevel Converter in Faulty Operation</b>	2.35 PM
3.	TD-011169	<b>Multi-cell Solid-State Transformer with Extended Functions</b>	2.55 PM
4.	TD-013099	<b>Medium Voltage 4-level Double-Star Multilevel Converter under Model Predictive Control</b>	3.15 PM
5.	TD-006483	<b>Comparative Assessment of Three-Phase Transformerless Grid-Connected Solar Inverters</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM
6.	TD-013188	<b>Operating Region of a Three-Phase Quasi-Z-Source Inverter</b>	4.10 PM

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Afternoon Session**

**SS IoT Technology for Industrial Applications**  
**Session Chairs: Dr. Muhammad Alam and Dr. Apala Ray**  
**Room: Governor General Parlor (2<sup>nd</sup> floor)**  
**24<sup>th</sup> March 2017**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-013005	<b>A Session Hijacking Attack on Physical Layer Key Generation Agreement</b>	2.15 PM
2.	TD-012939	<b>Characterization of non-line-of-sight paths using 802,15,4a</b>	2.35 PM
3.	TD-013048	<b>Energy Efficient Irrigation Scheduling System Based on the ISSO/IEC/IEEE 21451 Standards</b>	2.55 PM
4.	TD-007722	<b>Between a Control Area Network and a Cyber Physical System</b>	3.15 PM
5.	TD-012084	<b>Bring Your Own Key for the Industrial Internet of Things</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM
6.	TD-008346	<b>A Performance Evaluation of Distributed Control with STDMA Switches</b>	4.10 PM

**SS Dependable Wireless Communication for Industrial IoT**  
**Room: Governor General Parlor (2<sup>nd</sup> floor)**  
**24<sup>th</sup> March 2017 (4.50 PM-5.10PM)**

1.	TD-012742	<b>Orchestration of Containerized Micro services for IIoT using Docker</b>	4.50 PM
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**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Afternoon Session**

**SS Intelligent Control of Electrified Vehicles**  
**Room: Tom Thomson (Convention level)**  
**Session Chairs: Dr. Ramesh Tripathi and Dr. Beena nalini**  
**24th March 2017**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-011754	<b>Fuzzy Sliding Mode Control of Networked Control Systems: Application to Networks Electric Vehicles</b>	2.15 PM
2.	TD-008583	<b>An Analysis on Plug-in Electric Vehicle's Operating Cost Considering Cost of Battery Capacity Degradation</b>	2.35 PM
3.	TD-006084	<b>MPC-based Power Management Strategy for a Series Hybrid Electric Tracked Bulldozer</b>	2.55 PM
4.	TD-002046	<b>Manufacturing Ontology Development</b>	3.15 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM

**Day 3 : 24<sup>th</sup> March 2017 (Friday)**  
**Afternoon Session**

**TT: Industrial Automation, Communication and Informatics –Session III**  
**24<sup>th</sup> March 2017**

**Session chairs : Dr. Zhang Haijun and Dr.Bita Arabsalmanabadi**  
**Room: Room: Governor General Main (2<sup>nd</sup> floor)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-011002	<b>Delay Attack versus Clock Synchronization – A Time Chase</b>	2.15 PM
2.	TD-011452	<b>Unified Analytical Modeling of the Error Rates and the Ergodic Channel Capacity in <math>\eta</math>-<math>\mu</math> Generalized Fading Channels with Integer <math>\mu</math> and Maximal Ratio Combining Receiver</b>	2.35 PM
3.	TD-006106	<b>Integration of Existing Ethernet Devices into Time-Division-Multiplexing Ethernet</b>	2.55 PM
4.	TD-008826	<b>Evaluation of a Formalized Encryption Library for Safety-Critical Embedded Systems</b>	3.15 PM
5.	TD-008834	<b>Re-transmission Diversity with Fast Channel Selectivity for Reliable Industrial WLAN System</b>	3.35 PM
		<b>COFFEE BREAK</b>	3.55 PM-4.10 PM
6.	TD-002747	<b>A comparison of neural network-based methods for load forecasting with selected input candidates</b>	4.10 PM

**Day 4:25th March 2017  
(Saturday)  
Morning Session**

**Day 4 : 25<sup>th</sup> March 2017 (Saturday)**  
**Morning Session**

**Plenary Talks:**

PLENARY TALKS	SPEAKERS	TOPIC	TIME	ROOM
Plenary Talk-V	Dr. Narayan Kar, Professor and NSERC CRC, University of Windsor.	<b>Lightweight, Compact and High Performance Electric Vehicle Powertrain</b>	8.00 AM-8.45AM	Toronto I – II (convention level)
Plenary Talk-VI	Ivan Celanovic Chief Business Development Officer and Co-Founder of Typhoon-HIL, Inc.	<b>Hardware in the loop testing, the key enabling technology for the rapid transformation of power systems and electrification of transportation</b>	8.45 AM-9.30AM	Toronto I – II (convention level)



**Day 4 : 25<sup>th</sup> March 2017 (Saturday)**  
**Morning Session**

**Tutorials :**

TUTORIALS	SPEAKER	TOPIC	TIME	ROOM
Tutorial -VI	Dr. Gabriel A. Rincón-Mora Professor Georgia Institute of Technology	<b>Tiny Energy-Harvesting Piezoelectric Chargers</b>	10.00 AM-1.00PM	Varley (convention level)

**Day 4 : 25<sup>th</sup> March 2017 (Saturday)****Morning Session****Transportation Electrification and Vehicle Systems****25<sup>th</sup> March 2017****Session chairs : Dr. Fei. Gao and Dr. Farzad Rajaei Salmasi****Room: Jackson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-006955	<b>Design of a New Switched-Stator BLDC Drive to improve the energy efficiency of an Electric Vehicle</b>	9.30 AM
2.	TD-002364	<b>Single-Phase Bidirectional Integrated Onboard Battery Charger for EVs Featuring a Battery-Supercapacitor Hybrid Energy Storage System</b>	9.50 AM
3.	TD-004529	<b>Computation of Rectifier Transformers employed in Railway Networks</b>	10.10 AM
4.	TD-004979	<b>An Integrated Topology for On-board Charger and Driven of Electric Vehicle</b>	10.30AM
5.	TD-000027	<b>Comparative Analysis of DITC and DTFC of Switched Reluctance Motor for EV Application</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10 AM-11.30 AM
6.	TD-008044	<b>Comparison between Isolated and Non-Isolated DC/DC Converters for Bidirectional EV Chargers</b>	11.30 AM
7.	TD-008117	<b>Adaptive, Sparse, and Multi-rate LQR Control of an MVDC Shipboard Power System with Constant Power Loads</b>	11:50 AM
8.	TD-009644	<b>A Neural Network for Predicting Unintentional Lane Departures</b>	12:10 PM
9.	TD-009768	<b>Technical and economical evaluation of hybrid flash-charging stations for electric public transport</b>	12.30 PM
10.	TD-011916	<b>Probabilistic Approach to Analyze the Impact of DG Penetration with Electric Vehicles in Distribution Network</b>	12.50 PM
11.	TD-005258	<b>Design of a Bi-direction Power Converter for Charging Pile based on V2G</b>	1.10 PM
		<b>LUNCH BREAK</b>	1.30PM-2.15PM

**Day 4 : 25<sup>th</sup> March 2017 (Saturday)**  
**Morning Session**

**TT: Electric Machines and Drives–Session I**  
**25<sup>th</sup> March 2017**

**Session chairs: Dr. Narayan Kar and Dr. Xiaodong Liang**  
**Room: Carmichael (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-008567	<b>Initial Study on the Magnetic Field Characteristics of a Novel Magnetized Air Scroll Expander</b>	9.30 AM
2.	TD-000329	<b>Stacked Multilevel Inverter fed Six Phase Induction Motor with Reduced DC Link and Lower Voltage Devices</b>	9.50 AM
3.	TD-000485	<b>Design of an Adaptive Estimator for the Speed and Load Torque of the PMSM using an Extended Dynamic Model</b>	10.10 AM
4.	TD-000671	<b>Design of a Pseudo-MRAS Sliding Mode Observer with Double Feedback for Estimation of the Rotor Time Constant of the Induction Motor</b>	10.30AM
5.	TD-002232	<b>Method research of permanent magnet synchronous motor position sensorless control over full speed range</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10 AM-11.30 AM
6.	TD-002542	<b>Electromagnetic Design Optimization and Sensitivity Analysis for IPM Synchronous Motors</b>	11.30 AM
7.	TD-004111	<b>A Five speed 45-Phase Induction motor Drive with Pole Phase Modulation for Electric Vehicles</b>	11:50 AM
8.	TD-009709	<b>Intelligent Flux Predictive Control through Online Stator Inter-turn Fault Detection for Fault-tolerant Control of Induction Motor</b>	12:10 PM
9.	TD-007498	<b>Sensorless Control of a SynRM for the Whole Speed Range Based on a Nonlinear Observability Analysis</b>	12.30 PM
		<b>LUNCH BREAK</b>	1.30PM -2.15 PM

**Day 4 : 25<sup>th</sup> March 2017 (Saturday)****Morning Session****SS Industrial Wireless Networking****25th March 2017****Session chairs : Dr. Johan Akerberg and Dr. Mikael Gidlund****Room: Casson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-010154	<b>Will 5G Become Yet Another Wireless Technology for Industrial Automation</b>	9.30 AM
2.	TD-011673	<b>Hybrid MAC Mechanism for Energy Efficient Communication in IEEE 802,11ah</b>	9.50 AM
3.	TD-001511	<b>Feasibility of Large Antenna Arrays Towards Low Latency Ultra Reliable Communication</b>	10.10 AM
4.	TD-011959	<b>Evaluation of a Software Defined GFDM Implementation for Industry 4,0 Applications</b>	10.30AM
5.	TD-011932	<b>Augmented Reality based on Edge Computing using the Example of Remote Live Support</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10AM-11.30AM
6.	TD-012076	<b>Reliable Wireless Communication and Positioning enabling Mobile Control and Safety Applications in Industrial Environments</b>	11.30 AM
7	TD-001139	<b>Universal Internet of Things Solution: Protocol Independent</b>	11:50 AM
8.	TD-005371	<b>A Zero Human-Intervention Provisioning for Industrial IoT Devices</b>	12:10 PM
9.	TD-012122	<b>A Sub-Microsecond Clock Synchronization Protocol for Wireless Industrial Monitoring and Control Networks</b>	12:30 PM
10.	TD-004847	<b>Suitability of WiFi Based Communication Devices in Low Power Industrial Applications</b>	12.50 PM
		<b>LUNCH BREAK</b>	<b>1.30 -2.15 PM</b>

**Day 4 : 25<sup>th</sup> March 2017 (Saturday)**

**Morning Session**

**TT: Electric Machines and Drives–Session II**

**25<sup>th</sup> March 2017**

**Session chairs: Dr. Chandan Chakraborty and Dr. Haitham Abu-Rub**

**Room: Tom Thomson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-000043	<b>Investigation into the Effect of Unbalanced Supply Voltage on Detection of Stator Winding Turn Fault in PMSM</b>	9.30 AM
2.	TD-008664	<b>A Lorentz Actuator for High-Precision Magnetically Levitated Planar Systems</b>	9.50 AM
3.	TD-005118	<b>Development of a Methodology for Bearing Fault Scrutiny and Diagnosis using SVM</b>	10.10 AM
4.	TD-009814	<b>Improved Voltage Regulation of Dual Stator Induction Generator using Series and Shunt Capacitors</b>	10.30AM
5.	TD-010499	<b>Model Predictive Control of SPMSM based on FPGA and processor</b>	10.50AM
		<b>COFFEE BREAK</b>	11.10 AM-11.30 AM
6.	TD-011231	<b>Novel Back EMF Zero Difference Point Detection Based Sensorless Technique for BLDC Motor</b>	11.30AM

**SS Energy Efficient Control of Converters and AC Drives**

**25<sup>th</sup> March 2017**

**Room: Tom Thomson**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-008788	<b>Open Switch Fault Diagnosis Method for an AC/DC Line-Side Converter</b>	11.50 AM
		<b>LUNCH BREAK</b>	1.30 -2.15 PM

**Day 4:25th March 2017  
(Saturday)  
Afternoon Session**

**Day 4 : 25<sup>th</sup> March 2017 (Saturday)**  
**Afternoon Session**

**SS Wireless Power Transfer for Industrial Electronics**  
**Session chairs : Dr. Kunwar Aditya and Dr. Kishore Naik Mude**  
**Room: Casson (convention level)**  
**25<sup>th</sup> March 2017**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-012289	<b>In-motion Wireless Power Transfer: Technology, Infrastructure, Challenges and Market Scenario</b>	2.00 PM
2.	TD-012068	<b>Interleaved DC/DC Charger for Wireless Power Transfer</b>	2.20 PM
3.	TD-012246	<b>Optimal Design of Resonant Coupled Multi-Receiver Wireless Power Transfer Systems</b>	2.40 PM
4.	TD-011851	<b>Inductive Characteristics of Asymmetrical Coils for Wireless Power Transfer</b>	3.00 PM
		<b>COFFEE BREAK</b>	3.40 - 3.55 PM

**Day 4 : 25<sup>th</sup> March 2017 (Saturday)**  
**Afternoon Session**

**TT Sensors, Actuators, System Integration and Nano-Technologies**  
**25<sup>th</sup> March 2017**

**Session chairs : Dr.Yigeng Huangfu and Dr. Zhang Haijun**  
**Room : Tom Thomson (convention level)**

S.No	PAPER ID	PAPER TITLE	TIME
1.	TD-001457	<b>Double Stage FPCB Scanning Micromirror for Laser Pattern Generation</b>	2.00 PM
2.	TD-005819	<b>Design and Development a Water Quality Monitoring Network and System</b>	2.20 PM
3.	TD-007404	<b>Tactile and Proximity Sensor Using Self-Capacitance Measurement on Curved Surface</b>	2.40 PM
4.	TD-007501	<b>Experimenting Capacitive Sensing Technique for Structural Integrity Assessment</b>	3.00 PM
5.	TD-008893	<b>Reduction of drift impact in gas sensor response to improve quantitative odor analysis</b>	3.20 PM
		<b>COFFEE BREAK</b>	3.40 - 3.55 PM