

**Breakfast Plenary Session, Monday October 19 8:00 AM  
Garden Court III**

Manuscript ID Author & Affiliation

Developing an Electric Sail to Propel a Spacecraft to the Edge of our Galaxy in 10 years [KEYNOTE ADDRESS]

n/a Bruce M. WiegmannNASA-MSFC  
Advanced Concepts Office-ED04  
Huntsville, AL, 35812

**Session #1 Industrial Automation and Control Committee  
Monday, October 19, 2015 9:00 AM - 12:00 PM  
Power Converter Control I  
Session Chair: Dr. Arif Sarwat and Dr. S. A. Saleh  
Session Organizer: Dr. Santanu Mishra  
Room: Crystal II**

9:00 AM	Control and Implementation of a Standalone Solar Photo-Voltaic Hybrid System	2015-IACC-0393	Jincy Philip, Indian Institute of Technology; Jincy Philip, Indian Institute of Technology Delhi; Chinmay Jain, Indian Institute of Technology Delhi; Krishan Kant, Indian Institute of Technology Delhi; Bhim Singh, Indian Institute of Technology Delhi; Sukumar Mishra, IIT Delhi; Ambrish Chandra, ÉTS; Kamal Al Haddad, ÉTS
9:25 AM	On the Employment of 1Φ, Voltage-Source, Switch-Mode PWM, DC-AC Converters for Supplying Dielectric Barrier Discharge Devices	2015-IACC-0382	Saleh Saleh, University of New Brunswick; Bardlley Allen, The University of New Brunswick; Ryan Meng, The University of New Brunswick; Troy Lavigne, The University of New Brunswick; Bruce Colpitts, The University of New Brunswick
9:50 AM	Power distribution in coupled multiple-coil inductors for induction heating appliances	2015-IACC-0384	Fernando Sanz-Serrano, IBA Universidad de Zaragoza; Fernando Sanz-Serrano, Universidad de Zaragoza; Carlos Sagues, Universidad de Zaragoza; Sergio Llorente, BSH Home Appliances Group
10:30 AM	Test Bench Model and Algorithms for Multi-Sources Light Electric Vehicle Energy Management System	2015-IACC-0389	M Hannan, Universiti Kebangsaan Malaysia; Farid Azidin, University Technical Malaysia Melaka; A Mohamed, Universiti Kebangsaan Malaysia; Mohammad Uddin, Lakehead University; Mohammad Uddin, Lakehead University
10:55 AM	Comparative Study of Cycloconverter Based Double-ended Isolated Microinverter Topologies for Solar Photovoltaic AC (SPVAC) Module	2015-IACC-0410	Ravi Kiran Surapaneni, National University of Singapore; Akshay Rathore, National University of Singapore; Dorai Babu Yelaverthi, National University of Singapore; Akshay Rathore, National University of Singapore; Hua Geng,
11:20 AM	Power Quality Achievement using Grid Connected Converter of Wind Turbine System	2015-IACC-0396	Abdullah Bubshait, Colorado School of Mines; Tiago Davi Curi Busarello, University of Campinas-UNICAMP; Marcelo Simões, Colorado School of Mines; Ali Mortezaei, Colorado School of Mines

**Session #2 - Industrial Lighting and Displays Committee  
Session Name: Displays  
Date/Time: Monday, October 19, 2015  
Session Chair: Hiroshi Unno, Kanagawa Institute of Technology; Kayo Suzuki, Acaterial Ltd.  
Session Organizer: Kazutake Uehira, Kanagawa Institute of Technology  
Room: Crystal III**

9:00 AM	Oxide Thin-Film Transistor Technology for Flexible Organic Light-Emitting Diode Displays	2015-ILDC-0336	Mitsuru Nakata, NHK; Hiroshi Tsuji, NHK; Yoshihide Fujisaki, NHK; Yoshiki Nakajima, NHK; Tatsuya Takei, NHK; Genichi Motomura, NHK; Hirohiko Fukagawa, NHK; Toshimitsu Tsuzuki, NHK; Takahisa Shimizu, NHK; Naoki Shimidzu, NHK; Toshihiro Yamamoto, NHK
9:30 AM	Enlargement of continuous perceived depth region in Depth-fused 3D display	2015-ILDC-0337	Shiro Suyama, University of Tokushima
10:00 AM	A new displaying technology for information hiding using temporally brightness modulated pattern	2015-ILDC-0338	Hiroshi UNNO, Kanagawa Inst. & Tech.; Kazutake UEHIRA, Kanagawa Inst. & Tech.
11:00 AM	Low Power Driving Techniques for 1-Pixel Displays	2015-ILDC-0339	Hiroyuki Manabe, NTT DOCOMO; Mune kazu Date, NTT; Hideaki Takada, NTT; Hiroshi Inamura, NTT DOCOMO

**Session 3 - Electrostatic Processes Committee,  
Session Name: Electrohydrodynamics I  
Date/Time: Monday, October 19, 2015  
Session Chair: Jamal Yagoobi  
Session Organizer: Rajesh Sharma  
Room: Crystal IV**

9:00 AM	Flow Distribution Control in Meso Scale via Electrohydrodynamic Conduction Pumping	2015-EPC-0495	Lei Yang, Worcester Polytechnic Institute; Michal Talmor, Worcester Polytechnic Institute; Brandon Shaw, Worcester Polytechnic Institute; Kliment Minchev, Worcester Polytechnic Institute; Cheng Jiang, Worcester Polytechnic Institute; Jamal Seyed-Yagoobi, Worcester Polytechnic Institute
9:30 AM	Microplasma Actuator for EHD Induced Flow	2015-EPC-0486	Marius Blajan, Shizuoka University; Yoshinori Mizuno, Asahi Kogyosha Compan; Akihiko Ito, Shizuoka University; Kazuo Shimizu, Shizuoka University
10:00 AM	Electric field driven addressing of oil in water droplets in the presence of gradients of ionic and nonionic	2015-EPC-0508	Jakub Tucek, University of Chemistry and Technology, Prague; Pavel Beránek, University of

11:00 AM	Flow Characteristics of a Two Stage EHD Gas Pump in Circular Pipe	2015-EPC-0513	Yilma Birhane, National Taiwan University of Science and Technology; Feng Lai, University of Oklahoma; S. Lin, National Taiwan University of Science and Technology; Feng Lai, University of Oklahoma
<b>Session 4 - Part I</b> <b>Session Name: Student Thesis Contest</b> <b>Date/Time Monday, October 19, 2015 9:00 AM - 10:40 AM</b> <b>Session Chair: Maria Puentes and Srikanth Vasudevan P</b> <b>Session Organizer: Maria Paula Puentes Castilla and Peter Magyar</b> <b>Room: Crystal V</b>			
9:00 AM	A cost efficient FPGA based brushless DD motor driven special assistance rollchair for mobility impaired		Libin Varghese, Rajagiri School of Engineering and Technology, India
9:25 AM	Multi-input DC-AC converter for renewable energy source and low frequency ripple reduction circuit for battery charger application		Devendra R Patil, University of Texas at Dallas, USA
9:50 AM	Modeling-Simulation of an Elevator's Electric Drive System		Kafalis Konstantinos, Democritus University of Thrace, Greece
10:15 AM	Analysis of the energetic performances of an Energy Storage System in a real Micro-Grid application		Lorenzo Chiavaroli, Sapienza University of Rome, Italy
<b>Session 4 - Part II</b> <b>Session Name: Systems</b> <b>Date/Time Monday, October 19, 2015 10:40 AM - 12:20 PM</b> <b>Session Chair: Avoki Omekanda and Megha Tak</b> <b>Session Organizer: Maria Paula Puentes Castilla and Peter Magyar</b> <b>Room: Crystal V</b>			
10:40 AM	Adapting the Co-optimized Reserve Market Model to the Pan-European Electricity Market Coupling		Beáta Polgári, Budapest University of Technology and Economic, Hungary
11:05 AM	Controlling strategy composition of energy storage systems		István Táczai, Budapest University of Technology and Economic, Hungary
11:30 AM	Analysis of attacks and security challenges on the current and the next generation air traffic communication.		Sarra Ktiti, University of Passau, Germany
11:55 AM	Automation and Control Systems at Wastewater Treatment		Ines Abdennaji, National Engineering School of Gabes, Tunisia
<b>Session 5 Student Session, Part I</b> <b>Session Name: Appliance 1</b> <b>Date/Time: Monday, October 19, 2015 9:00 AM - 10:40 AM</b> <b>Session Chair: Blake Lloyd and Lesley Arakkal</b> <b>Session Organizer: Maria Paula Puentes Castilla and Peter Magyar</b> <b>Room: Crystal V</b>			
9:00 AM	Test and Measurements of a line type modulator for S-Band Magnetron		Deep Bhasker Patel, Pandit Deendayal Petroleum University, India
9:25 AM	Ant Colony Optimization Based Hierarchical Data Dissemination in WSN		Boucetta Cherifa, University of Manouba, Tunisia
9:50 AM	Examination of Sensors for Dynamic Line Rating		Imre PÁCSONYI, Budapest University of Technology and Economics, Hungary
10:15 AM	Increasing the safety of high voltage live-line maintenance with the use of arc protection methods		Bálint Gergely HALÁSZ, Budapest University of Technology and Economics, Hungary
<b>Session 5 Student Session, Part II</b> <b>Session Name: Appliance 2</b> <b>Date/Time: Monday, October 19, 2015 10:40 AM - 12:20 PM</b> <b>Session Chair: David B. Durocher and Srikanth Vasudevan P.</b> <b>Session Organizer: Maria Paula Puentes Castilla and Peter Magyar</b> <b>Room: Crystal V</b>			
10:40 AM	Industrial Mobile Solution for all kind of products "Get it Free"		Akram Marzouki, ULT University of Tunis, Tunisia
11:05 AM	A SiC-Based Power Supply for Dielectric Barrier Discharge Excilamps		Vanesa Rueda, Pontificia Universidad Javeriana, Colombia
11:30 AM	Design, modelling, fabrication and control of a levitation prototype for a steel ball		Janardan Kundu, Indian Institute of Engineering, Science & Technology, India
<b>Session #6, Electric Machines Committee</b> <b>Session Name:</b> <b>Date/Time: Monday, October 19, 2015 9:00 AM - 12:00 PM</b> <b>Session Chair: Suryanarayana Doola</b> <b>Session Organizer: Mircea Popescu</b> <b>Room: Crystal VII</b>			
9:00 AM	A Simplified Mathematical Approach to Model and Analyze Magnet Defects Fault Signatures in Permanent Magnet Synchronous Motors	2015-EMC-0303	Mohsen Zafarani, University of Texas at Dallas; Taner Goktas, University of Texas at Dallas; Bilal Akin, University of Texas at Dallas
9:30 AM	Coenergy Based Transient Model of Interior Permanent Synchronous Machines	2015-EMC-0302	Roy Schultz, GE Transportation; Lin Zhao, Gannon University
10:00 AM	Comparative Analysis of Segmental Rotor Type Switched Reluctance Motor with Single Teeth Winding	2015-EMC-0358	Zhenyao Xu; Dong Hee Lee, Kyungshung University; Jin-Woo Ahn, Kyungshung University
11:00 AM	Equivalent Inductance Model of Double-pole Induced Excitation Synchronous	2015-EMC-0305	hui zhong, Shandong University; Lin Zhao, Gannon University
11:30 AM	New Shunt Calorimeter for Testing Electric Motors	2015-EMC-0304	Lassi Aarniovuori, Lappeenranta University of Technology; Wenping Cao, Queen's University Belfast; Huifeng Chen, Queen's University Belfast; Nan Yang, Queen's University Belfast

**Session #7 Industrial Automation and Control Committee****Session Name: Advanced Controls****Date/Time: Monday, October 19, 2015 2:00 PM - 6:00 PM****Session Chair: Dr. Babak Nahidmobarakeh****Session Organizer: Dr. Kashem Muttaqi and Dr. Norman Anglani****Room: Crvstal II**

2:00 PM	Recursive Identification for Electric Arc Furnace - Electrode Regulator System	2015-IACC-0387	Feng Yu, Northeastern University; Zhizhong Mao, Northeastern University; Zhi Xie, Northeastern University; Dianhua Zhang, Northeastern University; Wenjing Lin, Northeastern University
2:30 PM	A new model of electromechanical relays for predicting the motion and electromagnetic dynamics.	2015-IACC-0397	Edgar Ramirez-Laboreo, I3A - Universidad de Zaragoza; Carlos Sagues, I3A - Universidad de Zaragoza; Sergio Llorente, BSH Home Appliances Group
3:00 PM	Soft Constrained Finite Horizon Model Predictive Control	2015-IACC-0400	Masood Askari, University of Malaya; Haider Almurib, The University of Nottingham Malaysia Campus; Mahmoud Moghavvemi, University of Malaya; Haider Almurib, The University of Nottingham Malaysia Campus; Ahmed Haidar, University of Wollongong
3:30 PM	On-line estimation of Lithium polymer batteries state-of-charge using particle filter based data fusion with multi-models approach	2015-IACC-0419	Daming Zhou, University of Technology of Belfort-Montbéliard; Alexandre Ravey, University of Technology of Belfort-Montbéliard; Fei Gao, University of Technology of Belfort-Montbéliard; Abdellatif Miraoui, University of Technology of Belfort-Montbéliard; Ke Zhang, Northwestern Polytechnical University
4:30 PM	A Modified Relevance Vector Machine for PEM Fuel Cell Stack Aging Prediction	2015-IACC-0420	Yiming Wu, UTBM; Elena Breaz, UTBM; Fei Gao, UTBM; Abdellatif Miraoui, UTBM
5:00 PM	Performance Evaluation of the ZIP Model-Phaselet Frame Approach for Identifying Appliances in Residential Loads	2015-IACC-0421	Petrus Pijnenburg, UNB; Saleh Saleh, University of New Brunswick; Peter McGaw, University of New Brunswick
5:30 PM	Autonomy and User Experience Enhancement Control of an Electrically Assisted Bicycle with Dual-wheel Drive	2015-IACC-0422	Michael Guarisco, UTBM; Fei Gao, UTBM; Damien Paire, UTBM

**Session #8 Industrial Lighting and Displays Committee****Session Name: LED & OLED Drivers****Date/Time: Monday, October 19, 2015 2:00 PM - 5:30 PM****Session Chair: Ray-Lee Lin, NCKU, Taiwan; Marco A. Dalla Costa, UFSM, Brazil****Session Organizer: Marcos Alonso, University of Oviedo, Spain****Room: Crvstal III**

2:00 PM	Bidirectional OLED Buck Driver	2015-ILDC-0318	Ray-Lee Lin, National Cheng Kung University; Zhong-Yan Tsai, National Cheng Kung University; David Buso, Université de Toulouse; Georges Zissis, University of Toulouse
2:30 PM	High-Power-Factor LED Driver based on Input Current Shaper using a Flyback Converter	2015-ILDC-0319	Guilherme Pereira, UFSM; Marco Dalla-Costa, UFSM; Maicol Melo, Universidade Federal de Santa Maria; José Alonso, Universidad de Oviedo
3:00 PM	A Single-stage Single-switch LED Driver Based on Class E Converter	2015-ILDC-0320	Yijie Wang, Harbin Institute of Technology; Jiaoping Huang, Harbin Institute of Technology; Wei Wang, Harbin Institute of Technology; Dianguo Xu, Harbin Institute of Technology
3:30 PM	A Review on Switched Capacitor Converters with High Power Density for OLED Lamp Driving	2015-ILDC-0335	Gilberto Martinez, Continental Automotive; J Marcos Alonso, University of Oviedo
4:40 PM	Self-Oscillating series-resonant LED driver Applied to reduce low-frequency current ripple transmission	2015-ILDC-0329	Maicol Melo, Universidade Federal de Santa Maria; William Vizzotto, Federal University of Santa Maria; Maikel Menke, Federal University of Santa Maria; Marco Dalla-Costa, UFSM; Alysson Seidel, Universidade Federal de Santa Maria; J Marcos Alonso, University of Oviedo
5:00 PM	Low Profile LED Off-Line Phase-Cut Dimming Ballast with Piezoelectric Transformer	2015-ILDC-0333	Li Le, Fraunhofer IZM; Yujia Yang, Fraunhofer IZM; Matthias Radecker, Fraunhofer IZM

**Session #9 Electrostatic Processes Committee****Session Name: Non Thermal Plasma and Environmental Applications****Date/Time, Monday, October 19, 2015 2:00 PM - 6:00 PM****Session Chair: Kazuo Shimizu shimizu@cjr.shizuoka.ac.jp****Session Organizer: Masaaki Okubo****Room: Crvstal IV**

2:00 PM	Photo electrochemical characterization of titania photoanodes fabricated using varying anodization parameters	2015-EPC-0533	Rajesh Sharma, Arkansas State University; Keith Arnoult, Arkansas State University; Kevin Hart, Arkansas State University; Maqsood Mughal, Arkansas State University; Robert Engelken, Arkansas State University
2:30 PM	Ozone emission and electrical characteristics of ionizers with different electrode materials, numbers, and diameters	2015-EPC-0492	Hak-Joon Kim, Korea Institute of Machinery and Materials; Bangwoo Han, Korea Institute of Machinery and Materials; Chang-Gyu Woo, Korea Institute of Machinery and Materials; Yong-Jin Kim, Korea Institute of Machinery and Materials; Seong-Jin Park, Innoens Co., Ltd.; Jong-Pil Yoon, ECO ENERGEN Co., Ltd.
3:00 PM	CO2 Concentration Using Adsorption and Non-thermal Plasma Desorption	2015-EPC-0507	Masaaki Okubo, Osaka Prefecture University; Hideaki Yamada, Ministry of Land, Infrastructure, Transport and Tourism; Keiichiro Yoshida, Osaka Institute of Technology; Takuya Kuwahara, Nippon Institute of Technology; Tomoyuki Kuroki, Osaka Prefecture University
3:30 PM	Removal of High Concentration of Nitrous Oxide for Anesthetic Gas Using Nonthermal Plasma Combined with Adsorbent	2015-EPC-0501	Tomoyuki Kuroki, Osaka Prefecture University; Toshiaki Yamamoto, Osaka Prefecture University; Shunsuke Nishii; Masayuki Akita, Enomoto BeA Co., Ltd.; Masaaki Okubo, Osaka Prefecture University

Electrostatic precipitation of Diesel PM at reduced gas temperature  
4:30 PM

2015-EPC-0498 Mitsuhiro Takasaki, Toyohashi University of Technology; Toma Kubota, Toyohashi University of Technology; Masahiro Hayashi, Toyohashi University of Technology; Hirofumi Kurita, Toyohashi University of Technology; Kazunori Takashima, Toyohashi University of Technology; Akira Mizuno, Toyohashi University of Technology

5:00 PM Pilot-scale Exhaust Gas Treatment for a Glass Manufacturing System

2015-EPC-0494 Hashira Yamamoto, Nihon Yamamura Glass Co., Ltd.; Tomoyuki Kuroki, Osaka Prefecture

**Session 10 - Student Sessions, Part I**

**Session Name: Zucker Design Team Contest**

**Date/Time: Monday, October 19, 2015 2:00 PM -**

**Session Chair: David B. Durocher and Taqwa Saeed**

**Session Organizer: Maria Paula Puentes Castilla and Peter Magyar**

**Room: Crystal VI**

2:00 PM Design of a Savonius Wind Turbine  
2:35 PM Energy Demand Impact due to Mass Use of Electrical Vehicles and future Demand Side Management Strategies  
3:00 PM Design-Build of a Hydroelectric Generator Airgap Measurement System  
3:25 PM Design of Elevator Control System Using PLC

Emmanouil Bafounis-Kottas, Democritus University of Thrace, Greece  
Carlos D. Rojas, Universidad Nacional de Colombia, Colombia  
Brad Coleman, University of Calgary, Canada  
Gaurav Singh, Pandit Deendayal Petroleum University, India

**Session 10 Student Sessions, Part II**

**Session Name: Zucker Design Individual Contest**

**Date/Time: October 19, 2015 4:00 PM - 6:05 PM**

**Session Chair: Louie Powell and Christina Malliou**

**Session Organizer: Maria Paula Puentes Castilla and Peter Magyar**

**Room: Crystal VI**

4:00 PM Solar Panels With Hydrogen Accumulators and Fuel Cell  
4:25 PM Design and implementation of a simulation tool for the reconfigurable smart grid  
4:50 PM IASpass  
5:15 PM Contactless Electric Vehicle Charging System Using Inductive Charging  
5:40 PM Development and Implementation of a Custom Solid State Relay Board for System Control of the Formula-type Car From the

Waled Mohamed, Sapienza University of Rome, Italy  
Zoubair Zarrouk, National Institute of Applied Science and Technology, Tunisia  
Aristotelis Farmakis, Democritus University of Thrace, Greece  
Sumit Chhabria, Pandit Deendayal Petroleum University, India  
Miguel Angel Gómez De Franco, Central University of Venezuela, Venezuela

**Session 11 Student Session, Part I**

**Session Name: Power Electronics**

**Date/Time, Monday, October 19, 2015 2:00 PM - 3:40 PM**

**Session Chair: Tomy Sebastain and Christina Malliou**

**Session Organizer: Maria Paula Puentes Castilla and Peter Magyar**

**Room: Crystal VI**

2:00 PM Dual Inverter design for automotive applications  
2:25 PM Operation and Analysis of a Bidirectional DC-DC Converter for Renewable Power Generation using Microgrids  
2:50 PM Naturally Commutated Current-fed Three-Phase Bidirectional Soft-switching DC-DC Converter With New Modulation Techni  
3:15 PM Un-interrupted DC power to overcome black outs

Subhadeep Bhattacharya, McGill University, Canada  
Zeal Shah, Pandit Deendayal Petroleum University, India  
Bal Satarupa , Akshay K Rathore, Dipti Srinivasan, National University of Singapore, Singapore  
Neel Soni, Pandit Deendayal Petroleum University, India

**Session 11 (Student Session) Part II**

**Session Name: Energy**

**Date/Time: Monday, October 19, 2015, 4:00 PM - 6:05 PM**

**Session Chair: Tomy Sebastian and Taqwa Saeed**

**Session Organizer: Maria Paula Puentes Castilla and Peter Magyar**

**Room: Crvstal VI**

4:00 PM Distributed Energy Resource Planning For Microgrids in the United States  
Examining the Interactions between DG Units and Voltage Regulating Devices for Effective Voltage  
4:25 PM Control in Distribution Systems  
4:50 PM Adaptive and robust control of wind turbines  
5:15 PM How to build a beercollector  
5:40 PM Theoretical and experimental analysis of photovoltaic-thermal solar collector

Chen Yuan, Ohio State University, USA  
Dothinka Ranamuka Rallage, University of Wollongong, Australia  
Svad Krilašević, University of Sarajevo, Bosnia and Herzegovina  
Peter Kalló, Budapest University of Technology and Economics; Hungary  
Cristina Moscatello, University of Rome La Sapienza, Italy

**Session #12, Industrial Automation and Control Committee**

**Session Name: Motor Drives I**

**Date/Time: Monday, October 18, 2015 2:00 PM - 6:00 PM**

**Session Chair: Dr. Osama A. Mohammed and Dr. Akshay Rathore**

**Session Organizer: Jingbo Liu**

**Room: Crvstal VII**

2:00 PM A Single Sensor Based Bridgeless Landsman PFC Converter Fed BLDC Motor Drive

2015-IACC-383 Praveen Singh, IIT DELHI, Bhim Singh, Vashist Bist, IIT DELHI, Ambrish Chandra, École de

2:30 PM	Control of Doubly Fed Induction Generator in Standalone Wind Energy Conversion System	2015-IACC-0388	Shailendra Sharma, Shri G. S. Institute of Technology & Science; Bhim Singh, Indian Institute of Technology Delhi; Ambrish Chandra, ÉTS; Kamal Al Haddad, ÉTS
3:00 PM	Self-Sensing Control of Permanent-Magnet Synchronous Machines with Multiple Saliencies Using Pulse-Voltage-Injection	2015-IACC-0390	Lei Chen, Robert Bosch GmbH; Gunther Götting, Robert Bosch GmbH; Simon Dietrich, Robert Bosch GmbH; Ingo Hahn, University of Erlangen-Nuremberg
3:30 PM	Stabilized Suspension Control Strategy at failure of a Motor Section in a d-q Axis Current Control Bearingless Motor	2015-IACC-0392	Masahide Ooshima, Tokyo University of Science, Suwa; Ayumu Kobayashi; Takayoshi Narita, Tokyo University of Science, Suwa
4:30 PM	Harmonic Injection Based Adaptive Control of IPM Motor Drive for Reduced Motor Current Harmonics	2015-IACC-0395	Garin Schoonhoven, Lakehead University; Mohammad Uddin, Lakehead University
5:00 PM	Predictive Torque Control with Zero-Sequence Current Suppression for Open-End Winding Induction Machine	2015-IACC-0398	Bohang Zhu, University of Texas at Dallas; Rajashekara Kaushik, University of Texas at Dallas; Hajime Kubo, MEIDENSHA CORPORATION
5:30 PM	Online Monitoring of Unbalanced Rotor Fault Detection of an IM Drive - Time and Frequency Domain Analyses	2015-IACC-0404	Md. Rahman, Lakehead University; Mohammad Uddin, Lakehead University

**Session #13, Metals Committee**  
**Session Name: Metals Electrical Distribution, Harmonics, Power Quality**  
**Date/Time: Monday, October 18, 2015 2:00 PM - 6:00 PM**  
**Session Chair: Dr. Cheng-Tsung Liu**  
**Session Organizer: Tom Dionise**  
**Room: Colonnade**

2:00 PM	State Estimation Based Determination of Harmonic Current Contributions of Iron and Steel Plants Supplied from PCC	2015-METC-0362	Erhan Sezgin, Gazi University; Murat Gol, Middle East Technical University; Ozgul Salor, TUBITAK-UZAY METU CAMPUS
2:30 PM	Installation, Startup and Performance of a Static Var Compensator for an Electric Arc Furnace Upgrade	2015-METC-0363	Sam Morello, ARM EnerTech Associates, LLC; Thomas Dionise, Eaton Corporation; Thomas Mank, Standard Steel, LLC
3:00 PM	Online Characterization of Interharmonics and Harmonics of AC Electric Arc Furnaces by Multiple Synchronous Reference Frame Analysis	2015-METC-0364	Eda Uz-Logoglu, Middle East Technical University; Ozgul Salor, TUBITAK-UZAY METU CAMPUS; Muammer Ermis, Middle East Technical University
4:00 PM	Design and Implementation of a Hybrid System for the Mitigation of PQ Problems of Medium-Frequency Induction Steel-Melting Furnaces	2015-METC-0365	Ilker Yilmaz, Middle East Technical University; Emre Durna, Middle East Technical University; Muammer Ermis, Middle East Technical University
4:30 PM	Correlation Between Multiple Electric Arc Furnace Operations and Unscheduled Power Flows in the Interconnection Lines at the Eastern Cross Border of ENTSO-E	2015-METC-0366	Erinc Altintas, Gazi University; Ozgul Salor, TUBITAK-UZAY METU CAMPUS; Umit Buyukdagli, TEIAS; Isik CADIRCI, Hacettepe University; Muammer Ermis, Middle East Technical University
5:00 PM	Hybrid Simulation of Power Quality Assessment An Application for Power Ground Grid in Arc Furnace Systems	2015-METC-0367	Eduardo Cano-Plata, Universidad Nacional de Colombia; Guillermo Jimenez-Lozano, National University of Colombia; Armando Ustariz-Farfan, National University of Colombia; Oscar Soto, National University of Colombia; Juan Ocampo-Wilches, National University of Colombia; María Cortes, National University of Colombia; Jorge Estrada, National University of Colombia
5:50 PM	On the Application of Single-phase Voltage Sag Compensators in Three-Phase Systems	2015-METC-0368	Igor Pires, Universidade Federal de Minas Gerais; Filipe de Oliveira, UFMG; Sidelmo Silva, Universidade Federal de Minas Gerais; Braz Cardoso, Federal University of Minas Gerais

**Session #14, Power Systems Engineering Committee**  
**Session Name:**  
**Date/Time: Tuesday, October 20, 2015 8:00 AM - 12:00 PM**  
**Session Chair:**  
**Session Organizer: Kent Saylor**  
**Room: Crvstal I**

8:00 AM	A Linear Program for System Level Control of Regional PHEV Charging Stations	2015-PSEC-0609	Asama Kulvanitchayanunt, The University of Texas at Arlington; Piampoom Sarikprueck, King's Mongkut Institute of Technology Ladkrabang; Wei-Jen Lee, University of Texas at Arlington; Jay Rosenberger, The University of Texas at Arlington; Victoria Chen, University of Texas at Arlington
8:30 AM	Optimization of Data Center Battery Storage Investments for Microgrid Cost Savings, Emissions Reduction, and Reliability Enhancement	2015-PSEC-0610	Christopher Thompson, The George Washington University; Konstantinos Oikonomou, The George Washington University; Amir Etemadi, The George Washington University; Volker Sorger, The George Washington University
9:00 AM	An Induction Generator based AC/DC Hybrid Electric Power Generation System for More Electric Aircraft	2015-PSEC-0611	Yijiang Jia, University of Texas at Dallas; Rajashekara Kaushik, University of Texas at Dallas
9:30 AM	Coherent Groups Identification under High Penetration of Non-synchronous Generation - A Koopman Mode Analysis Approach	2015-PSEC-0613	Harold Chamorro, KTH Royal Institute of Technology; Mehrdad Ghandhari, KTH Royal Institute of Technology; Robert Eriksson, Technical University of Denmark
10:30 AM	Trip Curves and Ride-Through Evaluation for Power Electronics Devices in Power System Dynamic Studies	2015-PSEC-0614	Xiaodong Liang, Memorial University of Newfoundland; John Hofman, Burns and McDonnell

**Session #15, Industrial Automation and Control Committee****Session Name: Power Converter Control II****Date/Time: Tuesday, October 20, 2015 8:00 AM - 12:00 PM****Session Chair: Dr. Osama A. Mohammed and Dr. Akshay Rathore****Session Organizer: Dr. S. A. Saleh****Room: Crystal II**

8:00 AM	Multifunctional Control Strategy for Asymmetrical Cascaded H-Bridge Inverter in Microgrid Applications	2015-IACC-0399	Ali Mortezaei, Colorado School of Mines; Marcelo Simões, Colorado School of Mines; Abdullah Bubshait, Colorado School of Mines; Tiago Busarello, University of Campinas - UNICAMP; Fernando Marafão, Unesp - Univ Estadual Paulista; Ahmed Al Durra, Petroleum Institute
8:30 AM	A Coordinated Control Approach for DC link and Rotor Crowbars to Improve Fault Ride-Through of DFIG based Wind Turbines	2015-IACC-0401	Ahmed Haidar, University of Wollongong; Kashem Muttaqi, University of Wollongong; Mehrdad Hagh, University of Wollongong
9:00 AM	Parasitics Assisted Soft-switching and Naturally Commutated Current-fed Bidirectional Push-pull Voltage Doubler	2015-IACC-0402	Debjani Chakraborty, National University of Singapore; Akshay Rathore, National University of Singapore; Elena Breaz, UTBM; Akshay Rathore, National University of Singapore; Fei Gao, University of Technology of Belfort-Montbeliard
9:30 AM	Optimal Pulsewidth Modulation of Medium-Voltage Modular Multilevel Converter	2015-IACC-0403	Akshay Rathore, National University of Singapore; Amarendra Edpuganti, National University of Singapore
10:30 AM	Modeling and Control of a Low Speed Flywheel Driving System for Pulsed Load Mitigation in DC Distribution Networks	2015-IACC-0405	Ahmed Elsayed, Florida International University; Osama Mohammed, Florida International University; Tarek Yossef, Florida International University;
11:00 AM	An Active Life Extension Strategy for Power Switches in Interleaved Converters	2015-IACC-0407	Serkan Dusmez, University of Texas at Dallas; Syed Huzaif, University of Texas - Dallas; Bilal Akin, University of Texas at Dallas
11:30 AM	Modeling, Control and Modulation Strategy of a Three-Phase 4-Switch PWM Voltage-source Rectifier Based on Novel Non-Orthogonal Coordinate	2015-IACC-0394	Zhiyong Zeng, Zhejiang University; Chong Zhu, Zhejiang University; Qingwei Yuan, Zhejiang University; Rongxiang Zhao, Zhejiang University; Weiyi Zheng, Zhejiang University; Rongxiang Zhao, Zhejiang University

**Session #16, Electrostatic Processes Committee****Session Name: Electrical Charging and Discharging****Date/Time: Tuesday, October 20, 2015 8:00 AM - 12:00 PM****Session Chair: Rajesh Sharma****Session Organizer: Maciej Noras****Room: Crystal III**

8:00 AM	Static Elimination in Vacuum	2015-EPC-0490	Takashi Ikehata, Ibaraki University; Daisuke Nemoto, Ibaraki University; Wanting He, Ibaraki University; Takeshi Matsuo, Ibaraki University; Naoyuki Sato, Ibaraki University; Kazuo Okano, Ibaraki University
8:30 AM	Static Elimination performance of A Corona Ionizer in Nitrogen-Based Electronegative Gases	2015-EPC-0491	Daisuke Nemoto, Ibaraki University; Wanting He, Ibaraki University; Takeshi Matsuo, Ibaraki University; Naoyuki Sato, Ibaraki University; Takashi Ikehata, Ibaraki University; Kazuo Okano, The Polytechnic University
9:00 AM	An Electrostatic Sheet Stapler using Positive and Negative corona charging	2015-EPC-0497	Toshiyuki Sugimoto, Yamagata University; Keisuke Ozawa, Yamagata University; Yoshio Higashiyama, Yamagata University
9:30 AM	Using triboelectric charge for determining the nature and composition of a granular product in pneumatic transport system	2015-EPC-0502	Imene Mahi, ICEPS Laboratory; Khoura Senouci, University Djillali Liabès Sidi Bel Abbès; Amar Tilmatine, University of Sidi bel Abbes; Rajaa Messafeur, ICEPS Laboratory; Farid Miloua, APELEC laboratory; Lucian Dascalescu, University of Poitiers
10:30 AM	Collection of Ultrafine Particles Using Polypropylene Non-woven Filter Media Charged by Triode Corona Discharge	2015-EPC-0518	Ali Fatihou, University of Poitiers; Noureddine Zouzou, University of Poitiers; Lucian Dascalescu, University of Poitiers
11:00 AM	Comparison between the Surface-electric-potential Characteristics of Corona- and Tribo-charged Polymers	2015-EPC-0499	Yopa Prawatya, University of Poitiers; Bogdan Neagoe, University of Poitiers; Thami Zeghloul, University of Poitiers; Lucian Dascalescu, University of Poitiers

**Session #17, Power Systems Engineering Committee****Session Name:****Date/Time: Tuesday, October 20, 2015 8:00 AM - 12:00 PM****Session Chair: Kent Saylor****Session Organizer: Kent Saylor****Room: Crystal IV**

8:00 AM	The TN-Island System for Cold Ironing	2015-PSEC-0581	Giuseppe Parise, Sapienza University of Rome; Luigi Parise, Sapienza University; P. (Ben) Chavdarian, Port of Long Beach; Stefano Sabatini, Sapienza University; Chun-Lien Su, National Kaohsiung Marine University
8:30 AM	Neutral Grounding in MV Transformers Substations for Cranes Service	2015-PSEC-0582	Giuseppe Parise, Sapienza University of Rome; Luigi Parise, Sapienza University of Rome; Marco Martufi, Sapienza University of Rome; Chun-Lien Su, National Kaohsiung Marine University; P. (Ben) Chavdarian, Port of Long Beach; Sergio Panetta, I-Gard Corp.
9:00 AM	Modelling power flow in a hoist motor of a Rubber Tyred Gantry crane	2015-PSEC-0583	Stefano Pietrosanti, University of Reading; William Holderbaum, University of Reading; Victor Becerra, University of Reading

9:30 AM	Impact of Shunt Active Harmonic Filter on Harmonic Current Distortion of Voltage Source Inverter-Fed Drives	2015-PSEC-0584	Wei-Hsiang Ko, National Taiwan University of Science and Technology; Jyh-Cherng Gu, National Taiwan University of Science and Technology
10:30 AM	A Harmonic Power Flow Program Aimed at Analyzing Distortion Effects Caused by Industrial Customers	2015-PSEC-0585	Gonzalo Constante-Flores, Escuela Politecnica Nacional; Gabriela Cabrera-Celi, Escuela Politecnica Nacional; Franklin Quilumba, Escuela Politecnica Nacional; Jesús Játiva-Ibarra, Escuela Politecnica Nacional; Wei-Jen Lee, University of Texas at Arlington
11:00 AM	Distributed Generation System's Impact on Power Quality	2015-PSEC-0586	Uthane Supatti, Kasetart University, Si Racha Campus; Sarayuth Wetchakama, Provincial Electricity Authority (PEA)
11:30 AM	Arc Flash Analysis in Dual-fed Substations	2015-PSEC-0587	Cezary Jach, SLAC National Accelerator Laboratory; Slawomir Olek, SLAC National Accelerator Laboratory; Mohammad Mehtabuddin, SLAC National Accelerator Laboratory

#### Session #18, Mining Committee

**Session Name: Mining Industry Applications**

**Date/Time: Tuesday, October 20, 2015 8:00 AM - 12:00 PM**

**Session Chair: Miguel Angel Reyes**

**Session Organizer: Miguel Angel Reyes**

**Room: Crvstal V**

8:00 AM	3D FEM Thermal and Electrical Analysis of Copper Electrowining Intercell Bars	2015-MIC-0663	Eduardo Wiechmann, University of Concepcion; Anibal Morales, University of Concepcion; Pablo
8:30 AM	A New Method for Power System Load Modeling Using a Nonlinear System Identification Estimator	2015-MIC-0656	Mohsen Jahromi, The University of Newcastle; Steven Mitchell, The University of Newcastle; Galina Mirzaeva, University of Newcastle; David Gay, The University of Newcastle
9:00 AM	AN ELECTRICAL IMPACT STUDY BETWEEN VARIABLE SPEED DUAL PINION MILLS AND GEARLESS MILL DRIVES	2015-MIC-0652	Mazyar Laylabadi, Fluor Canada; Athol Symonds, Fluor Canada
9:30 AM	Antenna Arrangement Investigation for Through-the-Earth (TTE) Communications in Coal Mines	2015-MIC-0666	Lincan Yan, NIOSH; Carl Sunderman, NIOSH; Bruce Whisner, NIOSH; Nicholas Damiano, NIOSH; Chenming Zhou, NIOSH
10:30 AM	Defining the Industrial Demilitarized Zone and its Benefits for Mining Applications	2015-MIC-0655	David Mazur, Rockwell Automation; John Kay, Rockwell Automation; Rob Entzminger, Rockwell Automation; Peter Morell, Rockwell Automation; Erik Syme, ProSoft Technology
11:00 AM	Economic and technical evaluation of solar assisted water pump stations for mining applications: A case of study	2015-MIC-0659	Daniel Sbarbaro, Universidad de Concepción, Mario Montorfano, University of Concepcion; Luis Morán,
11:30 AM	Employing DC Transmission in Long Distance AC Motor Drives: Analysis of the Copper Economy and Power Losses Reduction in Mining Facilities	2015-MIC-0653	Hélder De Paula, Federal University of Minas Gerais - UFMG; Vinicius De Paula, Federal University of Uberlândia - UFU

#### Session # 19, Industrial Lighting and Display Committee

**Session Name: Lamps & Lighting Systems**

**Date/Time: Tuesday, October 20, 2015 8:00 AM - 12:00 PM**

**Session Chair: Francis Dawson, University of Toronto, Canada; Yijie Wang, HIT, China**

**Session Organizer: Marcos Alonso, University of Oviedo, Spain**

**Room: Crvstal VI**

8:00 AM	Retrofit LED Lamps: Photometric Flicker Analysis	2015-ILDC-0323	Leoš Kukačka, Technical University in Liberec; Pascal DUPUIS, Université Paul Sabatier; Georges Zissis, Université Paul Sabatier; Milan Kolář, Technical University of Liberec
8:30 AM	PERFORMANCE OF ENERGY SAVING LAMPS ON POWER QUALITY AND LUMINOUS PROPERTIES UNDER VOLTAGE DECREASING 240V – 100V	2015-ILDC-0324	Yuzrisal Musakir, PT PLN (Persero); Pascal DUPUIS, Université Paul Sabatier; Ngapuli Sinisuka, Institut Teknologi Bandung; Georges Zissis, University of Toulouse
9:00 AM	Finite Element Analysis of a Variable Inductor for a RSCC based LED Lamp Driver	2015-ILDC-0334	Marina Perdigao, Instituto de Telecomunicações; S. Ferreira, Instituto de Telecomunicações; M. Martins, Instituto de Telecomunicações; A. Mendes, Instituto de Telecomunicações; J Marcos Alonso, University of Oviedo
9:30 AM	Determination of Radiative Properties for Water-Wall Plasma Arc Lamp Modelling	2015-ILDC-0328	Yann Cressault, Université de Toulouse; Francis Dawson, University of Toronto; Dave Camm, Camm Consulting; Markus Lieberer, Mattson Technologies; Harpreet Grover, University of Toronto
10:30 AM	A Unified Switching Strategy in Bidirectional Grid Interface DCM Flyback Stages for Public Lighting Systems with Microgeneration Capability	2015-ILDC-0330	Pablo J. Quintana, University of Oviedo; Jorge Garcia, University of Oviedo; Jesus Cardesin, Universidad de Oviedo; Emilio Corominas, Universidad de Oviedo
11:00 AM	Fast Dynamics Current Control of DCM Flyback as PFC Front Converter for Lighting Applications	2015-ILDC-0321	Pablo J. Quintana, University of Oviedo; Jorge Garcia, University of Oviedo; Jesus Cardesin, Universidad de Oviedo; Maicol Melo, Universidade Federal de Santa Maria; Marco Dalla-Costa, Universidade Federal de Santa Maria
11:30 AM	A study of Electrodeless Fluorescent Lamp's cores of ferrite N87 and IP12E	2015-ILDC-0326	Natalia Chagas, UFSM/UNIPAMPA; Veridiane Rosa, UFSM; Marcelo da Silva, UFSM; Ricardo Nederson do Prado, Federal University of Santa Maria

#### Session #20, Energy Systems Committee

**Session Name: Energy Systems I**

**Date/Time: Tuesday, October 20, 2015 8:00 AM - 12:00 PM**

**Session Chair: Joe Weber, Emerson Network Power**

**Session Organizer: Wei-Jen Lee, University of Texas at Arlington**

**Room: Crvstal VII**

8:00 AM	A Bi-level Program for the Planning of an Islanded Microgrid Including CAES	2015-ESC-0460	Jun Zhang, Shandong University; Ke-Jun Li, Shandong University; Mingqiang Wang, Shandong University; Wei-Jen Lee, University of Texas at Arlington; Hongxia Gao, Shandong University
8:30 AM	A Comparative Study of Conventional and High-Efficiency Induction Machines Using Finite-Element Analysis and Equivalent-Circuit Analysis	2015-ESC-0459	Li Wang, National Cheng Kung University; Erh-Lung Chuang, National Cheng Kung University;
9:00 AM	Adaptive Disturbance Rejection Control Scheme for DFIG-Based Wind Turbine	2015-ESC-0479	Anton V. Prokhorov, Tomsk Polytechnic University Akbar Tohidi, K. N. Toosi University of Technology; Hadi Hajieghrary, Drexel University; M. Ani Hsieh, Drexel University
9:30 AM	Bidirectional Hybrid Batteries/Ultra-Capacitors Energy Storage System for Vehicular Applications	2015-ESC-0463	Uthane Supatti, Kasetsart University; Sarawut Sungtum, Kasetsart University
10:30 AM	Design and Implementation of Voltage Source Converter Excitation System to Improve Power System Stability	2015-ESC-0471	Cheng-Xiong Mao, Huazhong University of Science and Technology; Zhu Chen, Huazhong University of Science and Technology; Cheng-Xiong Mao, Huazhong University of Science and Technology; Dan Wang, Huazhong University of Science and Technology; Jiming Lu, Huazhong University of Science and Technology; Yuhao Zhou, Huazhong University of Science and Technology
11:00 AM	Designing Smart Inverter with Unified Controller and Smooth Transition between Grid-Connected and Islanding Modes for Microgrid Application	2015-ESC-0482	Farnaz Harirchi, Colorado School of Mines; Marcelo Simões, Colorado School of Mines; Mohammad Babakmehr, Colorado School of Mines; Ahmed Al Durra, Petroleum Institute; Muyeen S. M, The Petroleum Institute
11:30 AM	Determining Optimal Energy Storage Size to Mitigate Intra-Hour Wind Power Variability	2015-ESC-0473	Yichuan Niu, The University of Texas at Austin; Surya Santoso, The University of Texas at Austin

**Session #21, Power Systems Protection Committee**  
**Session Name: Power Systems Protection**  
**Date/Time: Tuesday, October 20, 2015 8:00 AM - 12:00 PM**  
**Session Chair: Gary Fox**  
**Session Organizer: Rpb Hoerauf**  
**Room: Colonade**

8:00 AM	Electrical Safety Update – OSHA 29 CFR 1910.269 and NFPA 70E®-2015 Revisions	2015-CSC-0274	Dennis Neitzel, AVO Training Institute, Inc.
8:30 AM	Utility-Accessible External Disconnect Switch Suppression in PV Microgeneration: Brazilian Scenario	2015-PSEC-0622	Fernando Amaral, Centro Federal de Educação Tecnológica de Minas Gerais; Nicole Foureaux, Federal University of Minas Gerais; Sideldo Silva, Universidade Federal de Minas Gerais; José Brito, COELBA; Braz Filho, UFMG
9:00 AM	Testing Microprocessor-based Numerical Transformer Differential Protection	2015-PSPC-0449	W.A. Alex Lee, American Electric Power; Jun Verzosa,

**Session #22, Power Systems Engineering Committee**  
**Session Name:**  
**Date/Time: Tuesday, October 20, 2015 2:00 PM - 6:00 PM**  
**Session Chair: Sergio Panetta**  
**Session Organizer: Kent Saylor**  
**Room: Crvstal I**

2:00 PM	Non-Interruptible Energy Transfer Algorithm Applied to Multi-Terminal VSC-HVDC with Modular Multilevel Converter	2015-PSEC-0616	Gum Tae Son, LS Industrial Systems; HyunWoo Lee, YONSEI University; DongHee Choi, YONSEI University; Jung-Wook Park, Yonsei University
2:30 PM	Analysis and Mitigation of Parallel Resonance in the Distribution System	2015-PSEC-0617	Bhim Singh, Indian Institute of Technology Delhi; Ikhlq Hussain, Indian Institute of Technology Delhi; Ambrish Chandra, ÉTS; Kamal Al Haddad, ÉTS
3:00 PM	Determining the Reactive Power from the Active Power in Single Phase Systems Using the Extended Newton-Phaselet Method	2015-PSEC-0618	Saleh Saleh, University of New Brunswick
3:30 PM	Analysis of Star-Star-Delta_Utilized Transformer under Balanced and Unbalanced Load Conditions	2015-PSEC-0619	ATHUL MURALEEDHARANPILLAI VASANTHAKUMARY, AMRITA SCHOOL OF ENGINEERING; Preetha P. K, AMRITA SCHOOL OF ENGINEERING; P. S. Chandramohan Nair, ANERT, Govt. of Kerala

**Session #23, Industrial Automation and Control Committee**  
**Session Name: Power System Control I**  
**Date/Time: Tuesday, October 20, 2015 2:00 PM - 6:00 PM**  
**Session Chair: Dr. M. D. Kankam and Dr. Anurag Srivastava**  
**Session Organizer: Dr. Akshay Rathore**  
**Room: Crvstal II**

2:00 PM	Intelligent Control Algorithms for Optimal Reconfiguration of Microgrid Distribution System	2015-IACC-0411	Farshid Shariatzadeh, Spira; Anurag Srivastava, Washington State University; Nikhil Kumar, General Electric; Anurag Srivastava, Washington State University
2:30 PM	Intelligent Volt/VAR Control Algorithm for Active Power Distribution System to Maximize the Energy Savings	2015-IACC-0412	Rahul Anilkumar, Quanta; Anurag Srivastava, Washington State University; Griet Devriese, Power Engineers; Anurag Srivastava, Washington State University
3:00 PM	Smart Grid Topology Identification Using Sparse Recovery	2015-IACC-0408	Mohammad Babakmehr, Colorado School of Mines; Marcelo Simões, Colorado School of Mines; Michael Wakin, Colorado School of Mines; Ahmed Al Durra, Petroleum Institute; Farnaz Harirchi, Colorado School of Mines
3:30 PM	A Decentralized Model Predictive Control for Operation of Multiple Distributed Generators in Islanded	2015-IACC-0386	Michael Negnevitsky, University of Tasmania; Ahmad Tavakoli, University of Tasmania; Kashem



4:30 PM	Fast Bus Protection Using IEC 61850	2015-IACC-0435	Cassandra Goff, Tennessee Valley Authority; Ahmed Eltom, University of Tennessee at Chattanooga;
5:00 PM	A New Approach to Reduce the Non-Linear Characteristics of a Stressed Power System by Using the Normal Form Technique in the Control Design of the Excitation System	2015-IACC-0436	Hadi Lomei, University of Wollongong; Kashem Muttaqi, University of Wollongong; Danny Sutanto, University of Wollongong; Mohsen Assili, Shahrood University of Technology
5:30 PM	Optimum Resistive Type Fault Current Limiter: An Efficient Solution to Achieve Maximum Fault Ride-through Capability of Fixed Speed Wind Turbines during Symmetrical and Asymmetrical Grid Faults	2015-IACC-0417	Michael Negnevitsky, University of Tasmania; Seyed Behzad Naderi, University of Tasmania; Amin Jalilian, University of Tabriz; Mehrdad Hagh, University of Tabriz; Kashem Muttaqi, University of Wollongong

#### Session #24, Electrostatic Processes Committee

**Session Name: Electrostatic Measurements**

**Date/Time: Tuesday, October 20, 2015 2:00 PM - 6:00 PM**

**Session Chair: Maciej Noras**

**Session Organizer: Lucian Dascalescu**

**Room: Crystal III**

2:00 PM	Characterization and Analysis of Electric-Field Sensors	2015-EPC-0489	Sean Heintzelman, US Army Research Laboratory; David Hull, US Army Research Laboratory
2:30 PM	Measurement methods for flow electrification in the context of a tank being filled with a dielectric liquid	2015-EPC-0510	Paul Clermont, Institut P' - CNRS - Université de Poitiers - ISAE/ENSMA; Thierry Paillat; Gilles PERES, Airbus Group; Yohann DUVAL, Airbus Group; Gérard TOUCHARD, P' Institut; Jean RIVENC, Airbus Group
3:00 PM	Measuring electrostatic charge by ultrasound impulse excitation	2015-EPC-0511	Kazuya KIKUNAGA, National Institute of Advanced Industrial Science and Technology; Takayuki Hoshi, Nagoya Institute of Technology
3:30 PM	Electric and Magnetic Field Monitoring for Power Line Diagnostics	2015-EPC-0505	Maciej Noras, University of North Carolina at Charlotte
4:30 PM	Premises of evaluation of the filtration efficiency of an electrostatic precipitator by measuring of the electric charge	2015-EPC-0504	Malika Bengrit, APELEC laboratory, Djillali Liabes university, Sid-bel-Abbes; Farid Miloua, APELEC laboratory; Mohamed Miloudi, University of sidi bel abbes; Amar Tilmatine, University of Sidi bel Abbes; Lucian Dascalescu, University of Poitiers; Noureddine Zouzou, University of Poitiers
5:00 PM	A new hybrid surface-volume dielectric barrier discharge reactor for ozone generation	2015-EPC-0506	Kamel Nassour, ICEPS Laboratory; Mostefa Brahami, ICEPS Laboratory; Said Nemnich, APELEC Laboratory; Nacera Hammadi, APELEC Laboratory; Noureddine Zouzou, University of Poitiers; Amar Tilmatine, University of Sidi bel Abbes

#### Session #25, Power Systems Engineering Committee

**Session Name:**

**Date/Time: Tuesday, October 20, 2015 2:00 PM - 6:00 PM**

**Session Chair: Massimo Mitolo**

**Session Organizer: Kent Saylor**

**Room: Crystal IV**

2:00 PM	Value of Insulated Bus Bars in Reducing Arc Fault Duration in Low Voltage Systems	2015-PSEC-0588	Rahul Rajvanshi, Siemens Industry, Inc.; Tom Hawkins, Siemens Industry, Inc.
2:30 PM	District heating safety issues: interactions between grounding systems and thermal installations	2015-PSEC-0589	Giulio Cerino, Politecnico di Torino; Fabio Freschi, Politecnico di Torino; Massimo Mitolo, ESI; Alberto Poggio, Politecnico di Torino; Michele Tartaglia, Politecnico di Torino
3:00 PM	Electrical Model of Building Structures Under Ground-Fault Conditions, Part II	2015-PSEC-0590	Massimo Mitolo, Engineering Systems Inc. (ESI); Fabio Freschi, Politecnico di Torino; Riccardo Tommasini, Politecnico di Torino
3:30 PM	Effects on the Results of the Fall of Potential Test when using Sky Wires for the Remote Current Probe	2015-PSEC-0591	Eduardo Enrique, Stantec Consulting Ltd.
4:30 PM	Why Existing Utility Metrics Do Not Work for Industrial Reliability Analysis	2015-PSEC-0592	Robert Schuerger, HP Critical Facilities Services; Robert G. Arno, Harris Advanced Info Systems; Neal Dowling, Mtechnology
5:00 PM	Quantitative Evaluation of Wind Turbine Faults Under Variable Operational Conditions	2015-PSEC-0593	Xiaohang Jin, University of Nebraska-Lincoln; Yayu Peng, University of Nebraska-Lincoln; Fangzhou Cheng, University of Nebraska-Lincoln; Wei Qiao, University of Nebraska-Lincoln; Liyan Qu, University of Nebraska-Lincoln
5:30 PM	Stability Enhancement of an Integrated Wind/Solar System fed to an SG-based Power System	2015-PSEC-0594	Li Wang, National Cheng Kung University; THI MI SA NGUYEN, Hochiminh City University of Technology and Education; Dinh-Nhon Truong, Hochiminh City University of Technology and Education; Van-Thuyen Ngo, Hochiminh City University of Technology and Education; Anton V. Prokhorov, Tomsk Polytechnic University

#### Session #26, Mining Committee

**Session Name: Mining Industry Applications II**

**Date/Time: Tuesday, October 20, 2015 2:00 PM - 6:00 PM**

**Session Chair: Nicholas Damiano**

**Session Organizer: Miguel Angel Reyes**

**Room: Crystal V**

2:00 PM	IMPROVING POWER QUALITY IN MINING INDUSTRIES WITH A THREE-LEVEL ACTIVE FRONT END	2015-MIC-0649	Alex-Sander Luiz, Centro Federal Educação Tecnológica de Minas Gerais; Braz Filho, Universidade Federal de Minas Gerais
2:30 PM	Influence of Environmental Aspects upon the Reliability of Motor Drive Systems: Evaluation Based on Fuzzy Rules	2015-MIC-0651	Frederico Souza; Hélder De Paula, Federal University of Minas Gerais - UFMG; Anderson Rocha, CEFET-MG - Coordenação de Eletrotécnica

3:00 PM	Intercell Busbar Design for Copper Electrowinning	2015-MIC-0664	Eduardo Wiechmann, University of Concepcion; Anibal Morales, University of Concepcion; Pablo Aqueveque, University of Concepcion; Esteban Pino, University of Concepcion; Luis Munoz, University of Concepcion; Jorge Henriquez, University of Concepcion
3:30 PM	Medium frequency signal propagation characteristics of a lifeline as a transmission line in underground coal mines	2015-MIC-0654	Jingcheng Li, The National Institute for Occupational Safety and Health; Miguel Reyes, The National Institute for Occupational Safety and Health; Nicholas Damiano, National Institute for Occupational Safety and Health; Bruce Whisner, The National Institute for Occupational Safety and Health; Rudy Matetic, The National Institute for Occupational Safety and Health
4:30 PM	Multi-Mega VAR Passive Filters for Mining Applications: Practical Limitations and Technical Considerations	2015-MIC-0657	Luis Morán, Cristobal Albistur, Rolando Burgos,
5:00 PM	On the Design Robustness and Long Term Performance of the Most Used Electrodes in the Copper Electrowinning Industry	2015-MIC-0665	Eduardo Wiechmann, University of Concepcion; Anibal Morales, University of Concepcion; Pablo Aqueveque, University of Concepcion; Esteban Pino, University of Concepcion; Leonardo Aburto, Minera Spence
5:30 PM	Payload Estimation in AC Electric Mining Shovels using Drive Signals	2015-MIC-0661	M. Anibal Valenzuela, University of Concepcion; Matias Valenzuela G., University of Concepcion

**Session #27, Industrial Lighting and Display Committee**  
**Session Name: LED & OLED Lighting Systems**  
**Date/Time: Tuesday, October 20, 2015 2:00 PM - 6:00 PM**  
**Session Chair: Georges Zissis, University of Toulouse, France; Marcos Alonso, University of Oviedo, Spain**  
**Session Organizer: Marcos Alonso, University of Oviedo, Spain**  
**Room: Crvstal VI**

2:00 PM	A characterization framework to optimize LED luminaire's luminous efficacy	2015-ILDC-0325	Angel Barroso, Université Paul Sabatier; Pascal DUPUIS, Université Paul Sabatier; Corinne Alonso, Université Paul Sabatier; Bruno Jammes, Université Paul Sabatier; Lionel Séguier, Université Paul Sabatier; Georges Zissis, University of Toulouse
2:30 PM	Interfacing low voltage dc for lighting with mains and local production-storage facilities at building level	Presentation only	Corinne Alonso, Université Paul Sabatier
3:00 PM	Dynamic Characterization and Modeling of Organic Light-Emitting Diodes (OLEDs)	2015-ILDC-0331	Vitor Bender, Federal University of Santa Maria; Marina Camponogara, Federal University of Santa Maria; Nórton Barth, Federal University of Santa Maria; Rafael Pinto, Federal University of Santa Maria; Marchesan Tiago Bandeira, Federal University of Santa Maria (UFSM); José Alonso, Universidad de Oviedo
3:30 PM	Influence of driving current on photometric performances of a white light OLED	2015-ILDC-0327	Yang Liu, Fudan University; David Buso, Paul Sabatier University; Yuming Chen, Fudan Univ.; David Buso, Paul Sabatier University; Georges Zissis, University of Toulouse
4:30 PM	Optimizing LED lamps design for street lighting with staggered arrangement allowing energy saving strategies in a Lighting Smart Grid context	2015-ILDC-0332	Daniel Garcia-LLera, University of Oviedo; Antonio Calleja, University of Oviedo; Nelo Medina, University of Oviedo; Manuel Rico-Secades, University of Oviedo; Emilio Corominas, University of Oviedo; Pablo J. Quintana, University of Oviedo
5:00 PM	A Novel Ambiance Changing Energy Saving LED Lighting System with PFM Operated Zeta Converter	2015-ILDC-0322	Somnath Pal, Indian Institute of Technology Delhi; Bhim Singh, Indian Institute of Technology Delhi; Ashish Shrivastava, Indian Institute of Technology (IITD); Ambrish Chandra, ÉTS; Kamal Al Haddad, ÉTS

**Session #28, Energy Systems Committee**  
**Session Name: Energy Systems II**  
**Date/Time: Tuesday, October 20, 2015 2:00 PM - 6:00 PM**  
**Session Chair: Joe Weber, Emerson Network Power**  
**Session Organizer: Wei-Jen Lee, University of Texas at Arlington**  
**Room: Crvstal VII**

2:00 PM	Distributed Energy Resource Planning For Microgrids in the United States	2015-ESC-0461	Chen Yuan, The Ohio State University; Mahesh Illindala, The Ohio State University; Mohammed Haj-ahmed, The Ohio State University; Amrit Khalsa, American Electric Power
2:30 PM	Distributed Energy Resources Placement in Distribution Networks Considering Proximity to Voltage Collapse	2015-ESC-0456	Franklin Quilumba, National Polytechnic School; Gonzalo Constante-Flores, National Polytechnic School; Jesús Játiva-Ibarra, National Polytechnic School; Wei-Jen Lee, University of Texas at Arlington
3:00 PM	Economic Analysis of Battery Energy Storage System	2015-ESC-0458	William B. Ray II, Texas Tech University; Anitha Subburaj, Texas Tech University; James A. Schrock, Texas Tech University; Stephen Bayne, Texas Tech University
3:30 PM	Energy Storage Systems for High Power Applications	2015-ESC-0464	Mustafa Farhadi, Florida International University; Osama Mohammed, Florida International University
4:30 PM	Factors that Impact the Accuracy of Clustering Based Load Forecasting	2015-ESC-0476	Xin Wang, University of Texas at Arlington; Wei-Jen Lee, University of Texas at Arlington; Heng Huang, University of Texas at Arlington; Robert Szabados, Consolidated Edison Company of New York, Inc; David Yanshi Wang, Consolidated Edison Company of New York, Inc; Peter Van Olinda, Consolidated Edison Company of New York, Inc
5:00 PM	Feasibility Investigation of a Hybrid On-Grid Wind Photovoltaic Retrofitting System	2015-ESC-0484	Hussein Al-Masri, Texas A&M University; Mehrdad Ehsani, Texas A&M University

5:30 PM	Feature Extraction Based Hellinger Distance Algorithm for Non-Intrusive Aging Load Identification in Residential Buildings	2015-ESC-0455	Hsueh-Hsien Chang, Jin Wen University of Science and Technology; Meng-Chien Lee, National Taiwan University of Science and Technology; Nanming Chen, National Taiwan University of Science and Technology; Chao-Lin Chien, National Taiwan University of Science and Technology; Wei-Jen Lee, University of Texas at Arlington
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**Session #29, Power Systems Protection Committee**  
**Session Name: Power Systems Protection**  
**Date/Time: Tuesday, October 20, 2015 2:00 PM - 6:00 PM**  
**Session Chair: David Mazur**  
**Session Organizer: Rob Hoerauf**  
**Room: Colonnade**

2:00 PM	A Method of 20 kV Cable Line Fault Location Based on Sheath Grounding Current	2015-PSPC-0442	Faan Guo, Shandong University; Guofang Zhu, School of Electrical Engineering; Xiaofeng Dong, Suzhou Power Supply Company
2:30 PM	A New Protection Scheme for Multi-Bus DC Power Systems Using an Event Classification Approach	2015-PSPC-0444	Mustafa Farhadi, Florida International University; Osama Mohammed, Florida International University
3:00 PM	A Wide Area Protection Scheme for Smart Distribution Network with DG	2015-PSPC-0443	Mi Xu, Shandong University; Ying Sun, Shandong Univ.; Ke-Jun Li, Shandong University; Wenwen Xiao, Shandong Univ.; Hao Li, Shandong Univ.; Hongxia Gao, Shandong University
3:30 PM	Comprehensive Protection Strategy for an Islanded Microgrid Using Intelligent Relays	2015-PSPC-0446	Kexing Lai, The Ohio State University; Mahesh Illindala, The Ohio State University; Mohammed Haj-ahmed, The Ohio State University
4:30 PM	Developing and Testing Phaselet Frames-Based Digital Protection for Distributed Generation Units	2015-PSPC-0447	Saleh Saleh, University of New Brunswick; Emre Ozkop, Karadeniz Technical University; Abdualah Aljankawey, The University of New Brunswick
5:00 PM	Experimental Performance of the Phase-Based Digital Protection Against Arc Flash Faults	2015-PSPC-0448	Saleh Saleh, University of New Brunswick; Abdualah Aljankawey, The University of New Brunswick; Rachid Errouissi, The Petroleum Institute; Aziz Rahman, Memorial University of Newfoundland
5:30 PM	Protection coordination analysis under a real-time architecture for industrial distribution systems based on the Std IEEE 242-2001	2015-PSPC-0450	David Celeita Rodriguez, Universidad de los Andes; Juan Pico Sanabria, Universidad de los Andes; Gustavo Ramos, Universidad de los Andes

**Session #30, Industrial Automation and Control Committee**  
**Session Name: Drives, Power Systems and Intelligent Systems (combined)**  
**Date/Time: Wednesday, October 21, 2015 8:00 AM - 12:00 PM**  
**Session Chair: Jingbo Liu and Dr. M. Y. El-Sharkh**  
**Session Organizer: Dr. Mahesh Illindala**  
**Room: Crvstal II**

8:00 AM	A Reinforcement Learning Algorithm Based Technique for Thermal Energy Management of A PEM Fuel Rotational Energy Harvesting To Prolong Flight Duration Of Quadcopters	2015-IACC-0414	M. Y. El-Sharkh, University of South Alabama; Suparna Chowdhury, University of South Alabama;
8:30 AM		2015-IACC-0415	Robert Sowah, University of Ghana; Abdul Ofoli, UTC College of Engineering and Computer Science; Moses Acquah, University of Ghana; Abdul Ofoli, UTC College of Engineering and Computer Science; Godfrey Mills, University of Ghana; Koudjo M. Koumadi, University of Ghana
9:00 AM	Modeling and Diagnostic of Incipient Inter-turn Faults for a Three Phase Permanent Magnet Synchronous Motor Using Wavelet Transform	2015-IACC-0425	Najla Haje Obeid, université de Lorraine; Thierry Boileau, GREEN; Babak Nahid-Mobarakeh, GREEN
9:30 AM	A New Compensation Technique for PMSM Torque Ripple Minimization	2015-IACC-0406	Azeddine HOUARI, Université de Lorraine; François Auger, Université de Nantes; Jean-christophe Olivier, Université de Nantes; Mohamed Machmoum, Université de Nantes
10:30 AM	A Distribution Grid Tied Multifunctional SPV System Operating with Control Approach Based on Decoupled Adaptive Neural Network	2015-IACC-0385	Chinmay Jain, Indian Institute of Technology, Delhi; Sagar Goel, IIT Delhi; Bhim Singh, Indian Institute of Technology Delhi; Kamal Al Haddad, ÉTS; Ambrish Chandra, ÉTS
11:00 AM	Generalized Stability Control For Open Loop Operation Of Motor Drives	2015-IACC-0416	Jingbo Liu, Rockwell Automation; Thomas Nondahl, Rockwell Automation; Peter Schmidt, Rockwell Automation; Semyon Royak, Rockwell Automation; Timothy Rowan, Rockwell Automation
11:30 AM	Self-Organizing Recurrent Fuzzy Wavelet Neural Network-Based Mixed H2/H $\infty$ Adaptive Tracking Control for Uncertain Two-Axis Motion Control System	2015-IACC-0391	Fayez El-Sousy, Prince Sattam bin Abdulaziz University; Khaled Abuhasel, Prince Sattam bin Abdulaziz University

**Session #31, Electrostatic Processes Committee**  
**Session Name: Electrostatic Precipitation and Separation, V**  
**Date/Time: Wednesday, October 21, 2015 8:00 AM - 12:00 PM**  
**Session Chair:**  
**Session Organizer:**  
**Room: Crvstal III**

8:00 AM	Corona-assisted Plate-Type Electrostatic Separation Process for Granular Plastic Wastes	2015-EPC-0516	Thami Zeghloul, University of Poitiers; S Touhami; Gontran Richard, University of Poitiers; Mohamed Miloudi, universite sidi bel abbes; Omar Dahou, udl; Lucian Dascalescu, University of Poitiers
8:30 AM	Experimental investigation of a new tribo-electrostatic separation process for micronized plastic particles	2015-EPC-0519	Mohammed El-Mouloud Zemat, LEPA Laboratory; Amar Tilmatine, APELEC Laboratory; Adel Benabboun, APELEC Laboratory; Rabah Ouiddir, APELEC Laboratory; Abdelber Bendaoud, University of Sidi-bel-Abbes; Lucian Dascalescu, University of Poitiers

9:00 AM	Recovery of water bottles plastic using tribo-electrostatic separation process	2015-EPC-0514	Rabah Ouiddir, APELEC Laboratory; Amar Tilmatine, University of Sidi bel Abbes; Abdelber Bendaoud, University of Sidi-bel-Abbes; Mohammed El-Mouloud Zemat, APELEC Laboratory; Karim Medles, universite sidi bel abbes; Lucian Dascalescu, University of Poitiers
9:30 AM	Sorting of Finely-grinded Granular Mixtures Using a Belt-type Corona-Electrostatic Separator	2015-EPC-0500	Messal Sara, University of Poitiers, University Institute of Technology Angoulême; Thami Zeghloul, University of Poitiers; Abdelkader Mekhalef Benhafssa, University Djillali Liabès Sidi Bel Abbès; Lucian Dascalescu, University of Poitiers
10:30 AM	Ultrafine particle collection performance of an two-stage ESP using a novel mixing type carbon brush charger and parallel collection plates	2015-EPC-0493	Hak-Joon Kim, Korea Institute of Machinery and Materials; Bangwoon Han, Korea Institute of Machinery and Materials; Chang-Gyu Woo, Korea Institute of Machinery and Materials; Yong-Jin Kim, Korea Institute of Machinery and Materials; Seong-Jin Park, Innoens; Jong-Pil Yoon, ECO ENERGEN Co., Ltd.
11:00 AM	New aero-dynamic tribo-charging device with application to the electrostatic separation of granular mixtures of insulating materials	2015-EPC-0532	Djamel Eddine Fekir, universite sidi bel abbes; Mohamed Miloudi, universite sidi bel abbes; Farid Miloua, universite sidi bel abbes; Karim Medles, universite sidi bel abbes; Lucian Dascalescu, Institut PPRIME, CNRS – University of Poitiers - ENSMA

### Session #32, Power Systems Engineering Committee

**Session Name:**

**Date/Time: Wednesday, October 21, 2015 8:00 AM - 12:00 PM**

**Session Chair: Kent Saylor**

**Session Organizer: Sergio Panetta**

**Room: Crvstal V**

8:00 AM	Stability Improvement of a Large-Scale Offshore Wind Farm Using a Superconducting Magnetic Energy-Storage Unit and a Superconducting Fault-Current Limiter	2015-PSEC-0595	Li Wang, National Cheng Kung University; Si-Yang Lien, National Cheng Kung University; Anton V. Prokhorov, Tomsk Polytechnic University
8:30 AM	The effect of water droplets and salinity on the offshore wind turbines windings insulation: a short review	2015-PSEC-0597	Christina-Panagiota Malliou, Democritus University of Thrace; Athanasios Karlis, Democritus University of Thrace; Michael Danikas, Democritus University of Thrace; Blake Lloyd, Qualitrol Corp
9:00 AM	Wind and Solar Farms Underground Cables Ampacity when Lining Materials are used in Trenches	2015-PSEC-0598	Eduardo Enrique, Stantec Consulting Ltd.; Andrew Rees, Stantec Consulting Ltd.; Sean Freihaut, Stantec Consulting Ltd
9:30 AM	Adaptive Harmonic Cancellation Scheme for Voltage and Frequency Control of a Single Phase Two Winding SEIG	2015-PSEC-0599	Ujjwal Kalla, Indian Institute of Technology New Delhi; Bhim Singh, Indian Institute of Technology Delhi; S. S. Murthy, Indian Institute of Technology, Delhi; Krishan Kant, Indian Institute of Technology Delhi; Rajasekhara Chilipi, Indian Institute of Technology Delhi
11:00 AM	Modified Electronic Load Controller for Constant Frequency Operation with Voltage Regulation of small Hydro Driven Single-Phase SEIG	2015-PSEC-0600	Ujjwal Kalla, Indian Institute of Technology New Delhi; Bhim Singh, Indian Institute of Technology Delhi; S. S. Murthy, Indian Institute of Technology, Delhi

### Session #33 Mining Committee

**Session Name: Mining Industry Applications III**

**Date/Time: Wednesday, October 21, 2015 8:00 AM - 12:00 PM**

**Session Chair: Miguel Angel Reyes**

**Session Organizer: Miguel Angel Reyes**

**Room: Crvstal VI**

8:00 AM	Robust Estimation and Protection of Locked Charge in Grinding Mills	2015-MIC-0662	M. Anibal Valenzuela, University of Concepcion; Pablo Castro, University of Concepcion
8:30 AM	Simulation and Measurement of Medium Frequency Signals Coupling From a Line to a Loop Antenna	2015-MIC-0650	Nicholas Damiano, National Insitute for Occupational Safety and Health; Jingcheng Li, National Institute for Occupational Safety and Health; Chenming Zhou, National Institute for Occupational Safety and Health; Donovan Brocker, The Pennsylvania State University; Yifeng Qin, The Pennsylvania State University; Douglas Werner, The Pennsylvania State University; Pingjuan Werner, The Pennsylvania State University
9:00 AM	Space Vector Modeling of a SAG Mill Drive and Evaluation during Mill Shutdowns	2015-MIC-0660	M. Anibal Valenzuela, University of Concepcion; Pablo Castro, University of Concepcion
9:30 AM	The Effect of Available Short Circuit Capacity and Trail Cable Length on Substation Voltage Amplification in Surface Excavation Industry	2015-MIC-0648	Omar Abdel-Baqi, Caterpillar; Michael Onsager; Peter J. Miller
10:30 AM	True Unit Power Factor Active Front End for High Capacity Belt Conveyor Systems	2015-MIC-0658	Thiago Parreiras, Federal University of Minas Gerais; Thiago Parreiras, GE Power Conversion; Julio Justino, CEFET-MG - Centro Federal de Educação Tecnológica de Minas Gerais; Anderson Rocha, CEFET-MG - Centro Federal de Educação Tecnológica de Minas Gerais; Braz Cardoso, Federal University of Minas Gerais

### Session #34, Energy Systems Committee

**Session Name: Energy Systems III**

**Date/Time: Wednesday, October 21, 2015 8:00 AM - 12:00 PM**

**Session Chair: Wei-Jen Lee, University of Texas at Arlington**

**Session Organizer: Joe Weber, Emerson Network Power**

**Room: Crvstal VII**

8:00 AM	From Virtual Power Plant (VPP) to Sustainable Energy Microsystem (SEM): an opportunity for buildings energy management	2015-ESC-0481	Luigi Martirano, Sapienza University of Rome; Morris Brenna, ; Maria Carmen Falvo, Sapienza University; Federica Foiadelli, Davide Poli
8:30 AM	Fuel Cell based Hybrid Power Generation Strategies for Microgrid Applications	2015-ESC-0462	Prasanna Rajagopal, University of Texas at Dallas; Kaushik Rajashekara, University of Texas at Dallas
9:00 AM	Integrated mechanical and electrical non-salient pole PMSG-based wind turbine model development with predictive direct torque control	2015-ESC-0472	Shih-Yu Yang, National Taiwan University; Yuan-Kang Wu, National Chung-Cheng University; Hwei-Jeng Lin, National Taiwan University; Wei-Jen Lee, University of Texas at Arlington
9:30 AM	Integrating the First HVDC-Based Offshore Wind Power into PJM System - A Real Project Case Study	2015-ESC-0483	Jeremy Lin, PJM Interconnection
10:30 AM	KNX protocol compliant load shifting and storage control in residential buildings	2015-ESC-0478	Luigi Martirano, Sapienza University of Rome; Roberto Marrocco, Francesco Liberati, Alessandro Di Giorgio,
11:00 AM	Optimal Deployment of Distributed Generation Using a Reliability Criterion	2015-ESC-0468	Joydeep Mitra, Michigan State University; Mallikarjuna Vallem, Pacific Northwest National Laboratory; Chanan Singh, Texas A&M University
11:30 AM	Optimal Energy Management in an Industrial Plant using On-Site Generation and Demand Scheduling	2015-ESC-0457	Moein Choobineh, Colorado School of Mines; Salman Mohagheghi, Colorado School of Mines

### Session #35, Industrial Automation and Control Committee

**Session Name: Power System Control II**

**Date/Time: Wednesday, October 21, 2015 1:30 PM - 5:30 PM**

**Session Chair: Dr. Mahesh Illindala and Dr. Sukumar Kamalasadana**

**Session Organizer: Dr. Abdul R. Ofoli**

**Room: Crvstal II**

1:30 PM	Hybrid Energy Function based Real-Time Optimal Wide Area Transient Stability Controller For Power	2015-IACC-0428	Reza Yousefian, University of North Carolina at Charlotte; Amirreza Sahami, University of North
2:00 PM	An Optimal Storage Management Algorithm for PV Capacity Firming based on Weather Patterns	2015-IACC-0429	Sherif Abedirazek, University of North Carolina at Charlotte; Sukumar Kamalasadana, University of
2:30 PM	Performance Comparison between Dual-Blinder and Phasor-Based Out-of-Step Detection Functions Using Hardware-in-the Loop Simulation	2015-IACC-0434	Mustafa Saad, Patterson Power Engineers; Ahmed Eltom, Gary Kobet, Raga Ahmed,
3:00 PM	Decoupled Load Sharing of Multiple Distributed Generators in DC Microgrids <sup>ca</sup>	2015-IACC-0423	Nanfeng Yang, University of Technology of Belfort-Montbeliard; Damien Paire, University of Technology of Belfort-Montbeliard; Fei Gao, University of Technology of Belfort-Montbeliard; Abdellatif Miraoui, University of Technology of Belfort-Montbeliard; Weiguo Liu, Northwestern Polytechnical University
3:30 PM	Enhanced Frequency Response Strategy for PMSG based Wind Energy Conversion System using Ultracapacitor in Remote Area Power Supply Systems	2015-IACC-0426	Yingjie Tan, University of Wollongong; Kashem Muttaqi, University of Wollongong
4:30 PM	Inertia Design Methods for Islanded Microgrids having Static and Rotating Energy Sources	2015-IACC-0431	Nimish Soni, IIT Bombay; Suryanarayana Doolla, Indian Institute of Technology Bombay; Mukul C Chandorkar, IIT Bombay
5:00 PM	Examining the Interactions between DG Units and Voltage Regulating Devices for Effective Voltage Control in Distribution Systems	2015-IACC-0430	Ranamuka Dothinka, University of Wollongong; Ashish Agalgaonkar, University of Wollongong; Kashem Muttaqi, University of Wollongong

### Session #36, Electostatic Processes Committee

**Session Name: Electrostatic Applications IV**

**Date/Time: Wednesday, October 21, 2015 1:30 PM - 5:30 PM**

**Session Chair: Masaaki Okubo**

**Session Organizer: Lucian Dascalescu**

**Room: Crvstal III**

1:30 PM	Study of VOC removal related to particulate matter and E. Coli sterilization in six-mat space by atmospheric microplasma	2015-EPC-0512	Kazuo Shimizu, Shizuoka University; Yusuke Kurokawa, Shizuoka University; Marius Blajan, Shizuoka University
2:00 PM	Motion and Mixing of a Viscous Droplet Located on a Super-hydrophobic Surface using Resonant Vibration under the Vertical and Horizontal Ac Field	2015-EPC-0488	Takaki Oh-uchi, Yamagata University; Yoshio Higashiyama, Yamagata University; Toshiyuki Sugimoto, Yamagata University
2:30 PM	Application of Nanosecond Pulsed Dielectric Barrier Discharge for Sooty Surface Regeneration	2015-EPC-0517	Noureddine Zouzou, University of Poitiers; Arthur Claude Aba'a Ndong, University of Poitiers; Eric Moreau, University of Poitiers
3:00 PM	Effects of the presence of Grounded Shield in the Proximity of High-Voltage Corona Electrodes Collection plates	2015-EPC-0515	Abdeljalil Reguig, University of Sidi-bel-Abbes Sidi-bel-Abbes, Abdelber Bendaoud, University of Sidi-bel-Abbes; Ahmed Bouteffaha, University of Sidi-bel-Abbes; Hanane Boudra, University of Sidi-bel-Abbes; Amar Tilmatine, University of Sidi-bel-Abbes; Lucian Dascalescu, University of Poitiers
3:30 PM	Water purification using a packed bed reactor	2015-EPC-0509	Yudai Takeda, Toyohashi University of Technology; Yuki Taino, Toyohashi University of Technology; Hachiro Yasuda, Toyohashi University of Technology; Hirofumi Kurita, Toyohashi University of Technology; Kazunori Takashima, Toyohashi University of Technology; Akira Mizuno, Toyohashi University of Technology

### Session #37, Power Systems Engineering Committee

**Session Name:**

**Date/Time: Wednesday, October 21, 2015 1:30 PM - 5:30 PM**

**Session Chair: Kent Saylor**

**Session Organizer: Kent Saylor**

**Room: Crvstal V**

1:30 PM	Analysis of Voltage Sag Severity Case Study in an Industrial Circuit	2015-PSEC-0602	Eduardo Cano-Plata, National University of Colombia; Armando Ustariz-Farfan, National University of Colombia; Santiago Arias-Guzman, National University of Colombia; Oscar Ruiz-Guzman, National University of Colombia; Maria Jaramillo-Gonzales, National University of Colombia; Luis Garcia-Arias, National University of Colombia; Pablo Cardona-Orozco, National University of Colombia; Andrés Salazar-Jimenez, Central Hidroeléctrica de Caldas - CHEC
2:00 PM	Phase-to-Phase Communication Scheme for Downhole Monitoring Tool Design in Electrical Submersible Pump Systems	2015-PSEC-0603	Omid Ghoreishi, ATCO Electric; Xiaodong Liang, Memorial University of Newfoundland; Wilsun Xu, University of Alberta
2:30 PM	Toward Intelligent Fault Classification in Autonomous Microgrids	2015-PSEC-0604	Shankar Abhinav, University of Texas at Arlington; Giulio Binetti, Polytechnic of Bari; Frank Lewis, University of Texas at Arlington; Ali Davoudi, University of Texas at Arlington
3:00 PM	Operation and Impact of Energy Storage System in an Industrial Microgrid	2015-PSEC-0605	Abrez Mondal, The Ohio State University; Ajit Renjit, The Ohio State University; Mahesh Illindala, The Ohio State University; Joe Eto, Lawrence Berkeley National Laboratory
3:30 PM	Modeling and Efficiency-based Control of Interleaved LLC Converters in Photovoltaic Based DC Hierarchical Frequency Stability Control Strategy of an Autonomous Microgrid	2015-PSEC-0606	Weiran Dai, Texas A&M University
4:30 PM		2015-PSEC-0607	Zhuoli Zhao, South China University of Technology; Ping Yang, South China University of Technology; J. M. Guerrero, Aalborg University; Zhirong Xu, South China University of Technology; Tim Green, Imperial College London; Nathaniel Bottrell, Imperial College London
4:30 PM	Battery and Wind System in Weak/Strong Grid Analysis	2015-PSEC-0608	Anitha Subburaj, Texas Tech University; Stephen Bayne, Texas Tech University

Paper withdrawn at authors request  
Time change to 4:30 PM

<b>Session #38, Metals Committee</b> <b>Session Name: Metals Finishing, Control, Measurements and Sensors</b> <b>Date/Time: Wednesday, October 21, 2015 1:30 PM - 5:30 PM</b> <b>Session Chair: Dr. Juan Lopera</b> <b>Session Organizer: Tom Dionise</b> <b>Room: Crvstal I</b>			
1:30 PM	Modeling of the Media-Supply of Gas Burners of an Industrial Furnace	2015-METC-0365	Christoph Froehlich, TU Wien; Stephan Strommer, TU Wien; Andreas Steinboeck, TU Wien; Martin Niederer, TU Wien; Andreas Kugi, TU Wien
2:00 PM	Designs and Feasibility Assessments of an Integrated Linear Electromagnetic Actuator for Cold Roll Mill Applications	2015-METC-0370	Cheng-Tsung Liu, National Sun Yat-Sen University; Yu-Wen Chiu, National Sun Yat-Sen University; Chang-Chou Hwang, Feng Chia University
2:30 PM	Improved Efficiency Determination for a PLL-Controlled Series Resonant Inverter for Induction Metal Surface Hardening	2015-METC-0371	Houcine Zeroug, University of Sciences and Technology Houari Boumediene; Bilel Meziane, University of Sciences and Technology Houari Boumediene
3:00 PM	Reducing Costs and Saving Energy in the Tandem Rolling of Hot Metal Strip by the Use of an Advanced	2015-METC-0372	John Pittner, University of Pittsburgh; Marwan Simaan, University of Central Florida
3:30 PM	Dynamic Estimation of Electrical Demand in Hot Rolling Mills	2015-METC-0373	GONZALO ARTURO ALONSO ORCAJO, University of Oviedo; Josué Rodríguez D., University of Oviedo; Pablo Ardura G., ArcelorMittal; Jose M. Cano, University of Oviedo; Joaquín G. Normiella, University of Oviedo; Rocío Llera T., ArcelorMittal; Diego Cifrián R., ArcelorMittal
4:30 PM	A Profile Measurement System for Rail Manufacturing using Multiple Laser Range Finders	2015-METC-0374	Julio Molleda, University of Oviedo; Ruben Usamentiaga, University of Oviedo; Álvaro Millara, University of Oviedo
5:00 PM	Resonant Inverter Power and Coil Parameters Determination for Metal Surface Hardening	2015-METC-0375	Houcine Zeroug, University of Sciences and Technology Houari Boumediene; Abdelkader Attab, University of Sciences and Technology Houari Boumediene; Bilel Meziane, University of Sciences and Technology Houari Boumediene

<b>Session #39, Energy Systems Committee</b> <b>Session Name: Energy Systems IV</b> <b>Date/Time: Wednesday, October 21, 2015 1:30 PM - 5:30 PM</b> <b>Session Chair: Wei-Jen Lee, University of Texas at Arlington</b> <b>Session Organizer: Joe Weber, Emerson Network Power</b> <b>Room: Crvstal VII</b>			
1:30 PM	Pilot-bus-centered Automatic Voltage Control with High Penetration Level of Wind Generation	2015-ESC-0469	Wei Yan, Chongqing University; Wei-Jen Lee, University of Texas at Arlington; Juan Yu, Chongqing University; Xia Zhao, Chongqing University
2:00 PM	Probabilistic Wind Generation Forecast Based on Sparse Bayesian Classification and Dempster-Shafer Theory	2015-ESC-0480	Ming Yang, Shandong University; You Lin, Shandong University; Xueshan Han, Shandong University
2:00 PM	Stratification-Based Wind Power Forecasting in a High Penetration Wind Power System using a Hybrid Model with Charged System Search Algorithm	2015-ESC-0475	Yuan-Kang Wu, National Chung-Cheng University; Po-En Su, National Chung-Cheng University; Jing-Shan Hong, Central Weather Bureau
2:30 PM	Very Short-Term Prediction of Wind Farm Power: An Advanced Hybrid Intelligent Approach	2015-ESC-0477	Ramya Peri, University of Texas at El Paso; Paras Mandal, University of Texas at El Paso; Ashraf Haque, Teshmont Consultants; Tzu-Liang (Bill) Tseng, University of Texas at El Paso

**Session #40, Industrial Automation and Control Committee**  
**Session Name: Power Converter Control III**  
**Date/Time: Thursday, October 21, 2015 8:00 AM - 12:00 PM**  
**Session Chair: Dr. Babak Nahidmobarakeh and Dr. Arif Sarwat**  
**Session Organizer: Dr. Kashem Muttaqi**  
**Room: Crystal II**

8:00 AM	Naturally Commutated Current-fed Three-Phase Bidirectional Soft-switching DC-DC Converter With New An Optimized Algorithm for SVPWM Based on Three-Phase Stationary Frame	2015-IACC-0413	Akshay Rathore, National University of Singapore; Satarupa Bal, National University of Singapore;
8:30 AM		2015-IACC-0418	Weiyi Zheng, Zhejiang University; Zhiyong Zeng, Zhejiang University; Huan Yang, Zhejiang University; Chong Zhu, Zhejiang University; Qingwei Yuan, Zhejiang University; Rongxiang Zhao, Zhejiang University\
9:00 AM	Performance Investigation of High-Energy High-Power Densities Storage Devices by Li-ion Battery and Supercapacitor for Fuel Cell/Photovoltaic Hybrid Power Plant for Autonomous System Applications	2015-IACC-0424	Phatiphat Thounthong, King Mongkut's University of Technology North Bangkok; Suwat Sikkabut, King Mongkut's University of Technology North Bangkok; Pongsiri Mungporn, King Mongkut's University of Technology North Bangkok; Chainarin Ekkaravarodome, King Mongkut's University of Technology North Bangkok; Nicu Bizon, University of Pitesti; Pietro Tricoli, University of Birmingham; Babak Nahid-Mobarakeh, Université de Lorraine; Serge Pierfederici, Université de Lorraine; Bernard Davat, Université de Lorraine
9:30 AM	A Universal-Phase Rectifier Architecture for Rural Telecom Exchanges in Developing Countries	2015-IACC-0427	Abhishek Maji, IIT Kanpur; Santanu Mishra, Indian Institute of Technology Kanpur; Soumya Nag, Indian Institute of Technology Kanpur; Santanu Mishra, Indian Institute of Technology Kanpur
10:30 AM	Coupled Inductor Based High Gain Current-Fed DC-DC Bridge Converters	2015-IACC-0432	Soumya Nag, Indian Institute of Technology Kanpur; Santanu Mishra, Indian Institute of Technology Kanpur;
11:00 AM	A new Efficient Gate Driver Topology	2015-IACC-0433	Enzo Illiano; Konrad Wegener, Swiss Federal Institute of Technology
11:30 AM	Control of Hybrid AC/DC Microgrid Involving Storage, Renewable Energy and Pulsed Loads	2015-IACC-0566	Tan Ma, Florida International University; Mehmet Cintuglu, ; Osama Mohammed, Florida International University