SATURDAY, SEPTEMBER 11, 2010

3:00 pm – 5:00 pm	Registration Open ..... Prefunction South

SUNDAY, SEPTEMBER 12, 2010

7:00 am – 7:00 pm	Registration Open ..... Prefunction South

Tutorials Group 1 • 8:30 am – 12:00 pm

	Room 201	Room 202	Room 203	Room 204
	T1-1 Medium Voltage Drives	T1-2 Photovoltaic Microinverters: Topologies, Control Aspects, Reliability Issues, and Applicable Standards	T1-3 Understanding IGBT Modules Used in Energy Conversion	T1-4 Advanced Thermal Management Materials for Energy Conversion

12:00 pm – 1:30 pm	Lunch on Own

Tutorials Group 2 • 1:30 pm – 5:00 pm

	Room 201	Room 202	Room 203	Room 204
	T2-1 Design and Control of Permanent Magnet Machines for Geared and Gearless Applications	T2-2 Introduction to LED Lighting Systems and Their Power Electronic Drivers	T2-3 Digital PWM for DC to AC Conversion	T2-4 Grid Converters for PV and Wind Turbine Systems

5:00 pm – 7:00 pm	Opening Reception ..... Grand Ballroom West (C/D)

MONDAY, SEPTEMBER 13, 2010

7:00 am – 7:00 pm	Registration Open ..... Prefunction South
8:00 am – 10:00 am	Plenary Session ..... Grand Ballroom East (A/B)
10:00 am – 10:20 am	AM Break ..... Grand Salon Prefunction Area

Breakout Sessions • 10:20 am – 12:00 pm

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom East
	S1 Electric Machines: Induction Machines	S2 DC-AC Inverters: Grid Connected Inverters I	S3 Energy Efficiency and Industrial Applications: Power System Fault Isolation	S4 Enabling Technologies: Power Semiconductors I	S5 Energy Public Policy and Economics: Intersection of Technology and Policy	S6 Sustainable Energy Applications: Active Power Filters	S7 Energy Efficiency and Industrial Applications: LED Lighting I	S8 Electric Drives: Direct Torque Control	S9 DC-DC Converters: Digital Control I	S10 DC-DC Converters: Synchronous Rectifier Converters
10:20 am – 10:45 am	A Frequency Demodulation Approach to Induction Motor Speed Detection	Modularized Bi-directional Grid-Tied Inverter with Asynchronous Sigma-delta Modulation	Inverter-based versus Synchronous-Based Distributed Generation; Fault Current Limitation and Protection Issues	Electromechanical Characterization of "Flying" Planar Gate Punch through IGBT Bare Die	Power Electronics for Sustainable Energy Future — Quantifying the Value of Power Electronics	Reactive Power Compensation and Harmonics Elimination at Medium-voltage Using Hexagram Converter	Resonant Assisted Buck Converter for Offline Driving of High Brightness LED Replacement Lamps	A Novel Control Scheme for Wide Speed Range Operation of Direct Torque Controlled Synchronous Reluctance Motor	An Adaptive Digital PID Controller Scheme for Power Converters	Design Considerations of a Self-biased Current Driven SR in DCM Flyback DC/DC Converter
10:45 am – 11:10 am	Optimal Split Ratio for High Speed Induction Machines	Predictive Digital Controlled Three Phase Bi-directional Inverter with Wide Inductance Variation	Protection of Meshed Microgrids with Communication Overlay	Robustness Evaluation of High Voltage Press Pack IGBT Modules in Enhanced Short Circuit Test	Supporting Schemes for Renewable Energies the Italian Way	Study of Closed-loop Control Scheme for Source Current Detection Type Active Power Filter	LED Lighting Flicker and Potential Health Hazards: IEEE Standard. PAR1789 Update	Model Predictive Direct Torque Control of Permanent Magnet Synchronous Motors	Digital Controller for Rapid Cycling Synchrotron Magnet Power Supply with Very High Tracking	A New Driving Method for Synchronous Rectifiers of LLC Resonant Converter with Zero-crossing Noise Filter

MONDAY, SEPTEMBER 13, 2010 *(Continued)*

Breakout Sessions • 10:20 am – 12:00 pm *(Continued)*

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom East
	S1 Electric Machines: Induction Machines	**S2 DC-AC Inverters: Grid Connected Inverters I**	**S3 Energy Efficiency and Industrial Applications: Power System Fault Isolation**	**S4 Enabling Technologies: Power Semiconductors I**	**S5 Energy Public Policy and Economics: Intersection of Technology and Policy**	**S6 Sustainable Energy Applications: Active Power Filters**	**S7 Energy Efficiency and Industrial Applications: LED Lighting I**	**S8 Electric Drives: Direct Torque Control**	**S9 DC-DC Converters: Digital Control I**	**S10 DC-DC Converters: Synchronous Rectifier Converters**
11:10 am – 11:35 am	Effect of Winding Asymmetries and Winding Connection on Small Synchronous Machines	Design and Implementation of a 5 kW Single Phase Bi-directional Inverter with Wide Inductance Variation	Power Sequencing Approach to Fault Isolation in DC Systems: Influence of System Parameters	Comparisons of 6.5kV 25A Si IGBT and 10-kV SiC MOSFET in Solid-State Transformer	Lowest Cost Path to Meeting Electricity Demand at the State Level: Implications of Carbon Cap-and-trade	DC-side Shunt Active Power Filter for Line Commutated Rectifiers to Mitigate the Output Voltage Harmonics	Estimation of Internal Junction Temperature and Thermal Resistance of Light-Emitting Diodes Using External Luminous Flux Measurements	Computationally Efficient Model Predictive Direct Torque Control	Digital Power Controller with Sensorless DCM Operation	Digital Implementation of Driving Scheme for Synchronous Rectification in LLC Resonant Converter
11:35 am – 12:00 pm	New Method for Current and Voltage Measuring Offset Correction in and Induction Motor Sensorless Drive	A Novel Control Method for Dual Mode Time-sharing Grid-connected Inverter	Research on Current Control Strategy for Grid-connected Inverter Using LCL Filter Based on Passivity Based Control	Modeling of the Impact of Diode Junction Capacitance on High Voltage High Frequency Rectifiers Based on 10kV SiC JBS Diodes	Grid Stability Battery Systems for Renewable Energy Success	Scaling the Dynamic Capacitor (D-CAP) to Medium Voltages	A General Photo-electro-thermo-temporal Theory for Light-emitting Diode Systems	Implementation of Deadbeat Direct Torque and Flux Control for AC Induction Machine Control	Asymmetrical Leading-triangle Modulation Technique for Improved Digital Valley Current Controlled Switching DC-DC Converters	Synchronous Rectification Technique for High-Voltage Single-Ended Power Converters
12:00 pm – 1:20 pm	**Lunch on Own**									

Breakout Sessions • 1:20 pm – 3:00 pm

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom East
	S11 Electric Machines: Machine Design I	**S12 DC-AC Inverters: Grid Connected Inverters II**	**S13 Sustainable Energy Applications: Photovoltaics I**	**S14 Enabling Technologies: Power Semiconductors II**	**S15 Energy Public Policy and Economics: Renewable Energy Generation**	**S16 Sustainable Energy Applications: Sensing and Measurement**	**S17 Energy Efficiency and Industrial Applications: LED Lighting II**	**S18 Electric Drives: Drive Control**	**S19 DC-DC Converters: Digital Control II**	**S20 DC-DC Converters: Isolated Converters I**
1:20 pm – 1:45 pm	Development of a Totally Enclosed Fan Cooled Traction Motor	An Operating Scheme for DFIG-based Wind Generation System at Low Speeds	Coordinated Real and Reactive Power Management Implementation Based on Dual-stage PLL Method for PV System with ESS	Characterization of a High Gain BJT Used in Power Conversion on AC Mains	Quantifying State-policy Incentives for the Renewable Energy Investor	A Novel Frequency-adaptive PLL for Single-phase Grid-connected Converters	A Driving Technology for LED Retrofit Lamp For Fluorescent Lighting Fixtures With Electronic Ballasts	Efficiency Improvement Evaluation of Non-sinusoidal Back-EMF PMSM Machines Using Field Oriented Current Harmonic Injection Strategy	A Novel Parameter-independent Digital Optimal Control Algorithm for DC-DC Buck Converters Based On Parabolic Curve Fitting	Efficiency Characterization and Optimization in Flyback DC-DC Converters
1:45 pm – 2:10 pm	Winding Design for Pole-phase Modulation of Induction Machines	A Three-phase Programmable Voltage Sag Generator for Low Voltage Ride-through Capability Test of Wind Turbines	Control of Hybrid Battery/ Ultracapacitor Energy Storage for Stand-alone Photovoltaic System	An Investigation into the Effects of the Gate Drive Resistance on the Losses of the MOSFET-Snubber-diode Configuration	LCOE Reduction for Megawatts PV System using Efficient 500 kW Transformerless Inverter	Grid Synchronization PLL based on Cascaded Delayed Signal Cancellation	Power-transfer of Isolated Converter with Integrated Power Sharing for LED-Lighting System Dependent on Transformer Coupling	Output DC Voltage and Power Control of a Flux Strengthening IPM Generator and a High Speed Motor	Digital Enhanced V2-Type Constant On-time Control Using Inductor Current Ramp Estimation for A Buck Converter With Small ESR Capacitors	Analysis of a High Step-up Ratio Flyback Converter with Active Clamp and Voltage Multiplier

MONDAY, SEPTEMBER 13, 2010 *(Continued)*

Breakout Sessions • 1:20 pm – 3:00 pm *(Continued)*

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom East
	S11 Electric Machines: Machine Design I	**S12 DC-AC Inverters: Grid Connected Inverters II**	**S13 Sustainable Energy Applications: Photovoltaics I**	**S14 Enabling Technologies: Power Semiconductors II**	**S15 Energy Public Policy and Economics: Renewable Energy Generation**	**S16 Sustainable Energy Applications: Sensing and Measurement**	**S17 Energy Efficiency and Industrial Applications: LED Lighting II**	**S18 Electric Drives: Drive Control**	**S19 DC-DC Converters: Digital Control II**	**S20 DC-DC Converters: Isolated Converters I**
2:10 pm – 2:35 pm	A Novel Method for Multi-objective Design and Optimization of Three-phase Induction Machines	Exploring Inherent Damping Characteristic of LCL-Filters for Three-phase Grid-connected Voltage Source Inverters	Model Construction of Single Crystalline Photovoltaic Panels for Real-time Simulation	Modeling the Inter-electrode Capacitances of Si CoolMOSTM Transistors for Circuit Simulation in High Efficiency Power Systems	Control of Receiver Temperature and Shaft Speed in Dish-stirling Solar Power Plants to Meet Grid Integration Requirements	Real-Time Measurement of Power Quantities under Sinusoidal and Nonsinusoidal Conditions for Single-phase Systems	High Efficiency DC-DC Converter with Twin-Bus for Dimmable LED Lighting	A Time-varying Sliding Surface for Robust Position Control of Six Phase Induction Machine	A Novel Digital Capacitor Charge Balance Control Algorithm With a Practical Extreme Voltage Detector	An Isolated High Step-up Forward/ Flyback Active Clamp Converter with Output Voltage Lift
2:35 pm – 3:00 pm	Optimal Design of an In-wheel BLDC Motor for a Kick Scooter	A Current Source Converter Based Active Power Filter for Mitigation of Harmonics at the Interface of Distribution and Transmission Systems	Compact Integrated Solar Energy Generation Systems	FITMOS Modeling and Dynamic On-state Characteristic Evaluation	Estimates of the Cost of New Electricity Generation in the South	A New Fast Peak Detector for Single or Three-Phase Unsymmetrical Voltage Sags	One-stage High-brightness LED Driver with Power Factor Correction Using Standard Peak-current Mode Integrated Controllers	A Novel Technique for Sensorless Control of High Power Induction Motors Using Multilevel Converters	A New Digital Control DC-DC Converter with Neural Network Predictor	Self-oscillating Flyback Converter with Lossless Snubber for Contactless Power Supply Applications

3:00 pm – 3:20 pm **Break**.....**Grand Salon Prefunction Area**

Breakout Sessions • 3:20 pm – 5:00 pm

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom East
	S21 Electric Machines: Machine Design II	**S22 DC-AC Inverters: Grid Connected Inverters III**	**S23 Sustainable Energy Applications: Photovoltaics II**	**S24 Enabling Technologies: Contactless Power Transfer**	**S25 Energy Public Policy and Economics: Renewable Energy Integration**	**S26 Sustainable Energy Applications: Distributed Resources**	**S27 Energy Efficiency And Industrial Applications: LED Lighting III**	**S28 Electric Drives: Performance Improvement**	**S29 DC-DC Converters: Digital Control III**	**S30 DC-DC Converters: Isolated Converters II**
3:20 pm – 3:45 pm	Novel Design of Flux-intensifying Interior Permanent Magnet Synchronous Machine Suitable for Power Conversion and Self-sensing Control at Very Low Speed	Grid-connected Inverter with Inner Output Impedance and Governor-Free Characteristics	Maximum Power Limiting with Average Current Mode Control for Photovoltaic System	LCL Pick-up Circulating Current Controller for Inductive Power Transfer Systems	A Methodology for Quantifying Variability of Renewable Energy Sources by Reserve Requirement Calculation	On Power-sharing of Solar-based Hybrid Motor-drive Systems	A Comparative Study on the Circuit Topologies for High-efficient Passive Light-emitting Diode (LED) Drivers	DC Bus Voltage Clamp Method to Prevent Over-voltage Failures in Adjustable Speed Drives	Average Inductor Current Sensor for Digitally-controlled Switched-Mode Power Supplies	High Step-up Boost Converter Integrated with Voltage-doubler
3:45 pm – 4:10 pm	Slot Design for Iron Loss AC Rotating Electrical Machine Reduction	Real Time Selective Harmonic Minimization for Multilevel Inverters Connected to Solar Panels Using Artificial Neural Network Angle Generation	Switching Loss Analysis of a Three-phase Solar Power Conditioner Using a Single-phase PWM Control Method	High Performance Inductive Power Transfer System with Narrow Rail Width for On-line Electric Vehicles	A Methodology to Consider Electrical Infrastructure and Real-time Power-flow Impact Costs Together in Planning Large-scale Renewable Energy Farms	A New Droop Control Method for the Autonomous Operation of Distributed Energy Resource Interface Converters	LED Spectral and Power Characteristics under Hybrid Pwm/Am Dimming Strategy	Active Motor Terminal Overvoltage Mitigation Method for Parallel Two-level Voltage Source Inverters	Multi-resolution Feedback to Minimize Communication Data and Improve Output Accuracy in Isolated Digital Power Supplies	An Investigation of The Natural Balancing Mechanisms of Modular Input-series-output-series DC-DC Converters

MONDAY, SEPTEMBER 13, 2010 *(Continued)*

Breakout Sessions • 3:20 pm – 5:00 pm *(Continued)*

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom East
	S21 Electric Machines: Machine Design II	S22 DC-AC Inverters: Grid Connected Inverters III	S23 Sustainable Energy Applications: Photovoltaics II	S24 Enabling Technologies: Contactless Power Transfer	S25 Energy Public Policy and Economics: Renewable Energy Integration	S26 Sustainable Energy Applications: Distributed Resources	S27 Energy Efficiency And Industrial Applications: Led Lighting III	S28 Electric Drives: Performance Improvement	S29 DC-DC Converters: Digital Control III	S30 DC-DC Converters: Isolated Converters II
4:10 pm – 4:35 pm	Comparison of Different Winding Schemes of an Asynchronous Machine Driven by a Multi-functional Converter System	An Easy, Simple, and Flexible Control Scheme for a Three-phase Grid-tie Inverter System	A New Cost-effective Analog Maximum Power Point Tracker for Photovoltaic Systems	2-D Alignment Analysis of Capacitively Coupled Contactless Power Transfer Systems	Utilizing a STATCOM to Prevent the Flicker Propagation in a Wind Power System	Evaluation of the Voltage Support Strategies for Low Voltage Grid Connected PV Generators	Emergency Lamp Using High-brightness LEDs	Appropriate Tuning and Robust Design of a Generalized Predictive Speed Controller for Drive Systems with Resonant Loads	Digital Load Share Controller Design of Paralleled Phase-shifted Full-bridge Converters Referencing the Highest Current	Zero-voltage Switching Flyback-Boost Converter with Voltage-doubler Rectifier for High Step-up Applications
4:35 pm – 5:00 pm	Modeling and Design Optimization of PM AC Machines Using Computationally Efficient - finite Element Analysis	Single-Stage DC-AC Converter for Photovoltaic System	Performance of Photovoltaic Maximum Power Point Tracking Algorithms in the Presence of Noise	Analysis on a Single-layer Winding Array Structure for Contactless Battery Charging Systems with Localized Charging	Overlaying a Parallel Market to Increase Renewable Penetration	Grid Side Cascade Inverter System as an Interface for Wind Energy Storage	Third Harmonic Filtered 13.56 MHz Push-pull Class-E Power Amplifier	A General Approach of Damping Torsional Resonance Modes in Multi-megawatt Applications	Implementation of Digitally Controlled Phase Shift Full Bridge Converter for Server Power Supply	Improvement of Light Load Efficiency of Dual Active Bridge DC-DC Converter by Using Dual Leakage Transformer and Variable Frequency

5:00 pm – 7:00 pm **Exhibition Reception** ..... **Grand Salon**

TUESDAY, SEPTEMBER 14, 2010

7:00 am – 7:00 pm **Registration Open** ..... **Prefunction South**

Breakout Sessions • 8:00 am – 9:40 am

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S31 Electric Drives: Modeling and Control of Overvoltage Transients	S32 Transportation Applications: PHEV	S33 AC-DC Converters: Analog Control of PFC	S34 Enabling Technologies: EMI Analysis and Suppression I	S35 Enabling Technologies: Reliability and Lifetime Estimation	S36 Electric Machines: Machine Losses and Material Issues	S37 Energy Efficiency And Industrial Applications: HID Lighting	S38 DC-AC Inverters: Inverter Control And Analysis I	S39 Electric Machines: Fractional Slot Machines I	S40 DC-DC Converters Isolated Converters III	S41 DC-DC Converters: Bidirectional Converters I
8:00 am – 8:25 am	Integrated Differential-mode and Common-mode Filter to Mitigate the Effects of Long Motor Leads on AC Drives	Effects of V2G Reactive Power Compensation on the Component Selection in an EV or PHEV Bidirectional Charger	An Improved Control Strategy Based on Multiplier for CRM Flyback PFC to Reduce Line Current Peak Distortion	Adaptive DV/DT and DI/DT Control for Isolated Gate Power Devices	Condition Monitoring Solder Fatigue in a Power Module Using the Rise of Case-above-ambient Temperature	New Lines of Investigation on the Effects of Processing Conditions on Soft Magnetic Composite Materials Behaviour for Electromagnetic Applications	Medium Power Ceramic HID Lamps; Problems and Opportunities Resulting from Low Lamp Power Factor	Comparison between Two Control Strategies for Input-series-output-series Inverters System	Six-phase Supply Feasibility Using a PM Fractional-slot Dual Winding Machine	Active Clamped Three-phase Isolated Boost Converter with Series Output Connection for High Step-up Applications	Three-phase Bidirectional DC-DC Converter with Enhanced Current Sharing
8:25 am – 8:50 am	High-Frequency Cable and Motor Modeling of Long-Cable-Fed Induction Motor Drive Systems	Design Considerations for High-voltage DC Bus Architecture and Wire Mechanization for Electric/ Hybrid Electric Vehicle Applications	A Novel SFVM Control Scheme for Two-phase Interleaved CCM/DCM Boundary Mode Boost Converter in Power Factor Correction Applications	Characterization of a Modified LISN for Effective Separated Measurements of Common Mode and Differential Mode EMI Noise	The Lifetime/ Volume Ratio as an Index to Assess the Reliability of Power Converters	Analytical Prediction of Rotor Eddy Current Loss Due to Stator Slotting in PM Machines	A Timing Controllable and Polarity Tracked Igniter for High Intensity Discharge Lamp Electronic Ballast	Approaches to Enhance Discrete Control Algorithms Serving for Motor Drive System	Fractional-slot Concentrated-winding Axial-flux Permanent Magnet Machine with Core-wound Coils	A Simple and Effective Control Strategy for Improved Operation of a Current-fed Push-pull Converter	Bi-directional High-voltage DC-DC Converter for Advanced Railway Locomotives

TUESDAY, SEPTEMBER 14, 2010 *(Continued)*

Breakout Sessions • 8:00 am – 9:40 am *(Continued)*

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S31 Electric Drives: Modeling and Control of Overvoltage Transients	**S32 Transportation Applications: PHEV**	**S33 AC-DC Converters: Analog Control of PFC**	**S34 Enabling Technologies: EMI Analysis and Suppression I**	**S35 Enabling Technologies: Reliability and Lifetime Estimation**	**S36 Electric Machines: Machine Losses and Material Issues**	**S37 Energy Efficiency And Industrial Applications: Hid Lighting**	**S38 DC-AC Inverters: Inverter Control And Analysis I**	**S39 Electric Machines: Fractional Slot Machines I**	**S40 DC-DC Converters Isolated Converters III**	**S41 DC-DC Converters: Bidirectional Converters I**
8:50 am – 9:15 am	A Low-loss Motor Terminal Filter for Overvoltage Suppression	Development and Validation of Models for 95% Efficiency, 220 W Wireless Power Transfer Over a 30 cm Air-gap	Sliding Mode Current Control of Grid-Connected Voltage Source Converter	Meeting MIL-STD-461 for 2kW Military Tactic Generator Drive System	Real-time Life Consumption Power Modules Prognosis Using On-line Rainflow Algorithm in Metro	Analysis of Proximity Losses in High-speed Surface Permanent Magnet Machines with Concentrated Windings	Design and Analysis of a Novel Two-stage Electronic Ballast for Hid Lamp	A Fast, Accurate and Robust Algorithm to Detect Fundamental and Harmonic Sequences	Design, Analysis, and Fabrication of a High-performance Fractional Slot Concentrated Winding Surface PM Machine	An Adaptive Blanking Time Control Scheme for Audible Noise Free Quasi Resonant Flyback Converter	An Overall Study of a Dual Active Bridge for Bidirectional DC/DC Conversion
9:15 am – 9:40 am	Overvoltage Mitigation of Inverter-driven Motors with Long Cables of Different Lengths	A Novel Thermal Model for HEV/EV Battery Modeling Based on CFD Calculation	A Hybrid Current Control for a Controlled Rectifier	Behavioral Modeling Methods for Motor Drive System EMI Design Optimization	Lifetime Estimation with Thermal Models of Semiconductors	Core Loss Prediction Using Magnetic Circuit Model for Fractional-slot Concentrated-winding Interior Permanent Magnet Machines	An Energy-Recyclable Burn-in Technology for Electronic Ballast for Hid Lamps	Switched Systems Model and Switching Rules of DC-AC Converter	Unsaturated and Saturated Saliency Trends in Fractional-slot Concentrated-winding Interior Permanent Magnet Machines	A Novel Full-bridge Converter Achieving ZVS over Wide Load Range with a Passive Auxiliary Circuit	Bidirectional Isolated Dual Full-bridge DC-DC Converter with Active Clamp for EDLC

9:40 am – 10:00 am **AM Break** ..... **Grand Salon Prefunction Area**

Breakout Sessions • 10:00 am – 11:40 am

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S42 Electric Drives: AC Machine Control	**S43 Transporation Application: Infrastructure**	**S44 AC-DC Converters: Digital Control of PFC**	**S45 Enabling Technologies: EMI Analysis And Suppression II**	**S46 Enabling Technologies: Packaging And Integration**	**S47 Electric Machines: Machine Losses and Thermal Analysis**	**S48 Energy Efficiency and Industrial Applications: Fluorescent Ballast**	**S49 DC-AC Inverters: Inverter Control and Analysis II**	**S50 Electric Machines: Fractional Slot Machines II**	**S51 DC-DC Converters: Isolated Converters IV**	**S52 DC-DC Converters: Bidirection Converters II**
10:00 am – 10:25 am	A New Deep Field-weakening Strategy of IPM Machines Based on Single Current Regulator and Voltage Angle Control	Control Strategy of a Multi-port, Grid Connected, Direct-DC-PV Charging Station for Plug-in Electric Vehicles	A New Digital Control System for a Single-phase Half-bridge Rectifier with Fast Dynamic Response	An Improved Design for Transmission Line Busbar EMI Filter	Integrating Giant Magneto-resistive (GMR) Field Detectors for High Bandwidth Current Sensing in Power Electronic	Thermal Analysis of a Segmented Stator Winding Design	A Single Eco-friendly Ultra-low-loss Magnetic Ballast Design for a Wide Range of T5 High-efficient Fluorescent Lamps	A New Optimal PWM Strategy Applied to Single Phase Inverters with Variable DC Voltage	Considerations on Selecting Fractional-slot Windings	Using Adaptive Off-time Synchronous Rectification to Improve Efficiency in Low Output Voltage Converters	A New Resonant Active Clamping Techniquefor Bi-directional Converters in HEV's
10:25 am – 10:50 am	Unified Direct-flux Vector Control for AC Motor Drives	Optimum Design of an EV/PHEV Charging Station with DC Bus and Storage System	Accurate Mode Boundary Detection in Digitally Controlled Boost Power Factor Correction Rectifiers	On Factors Affecting EMI-performance of Conducted-noise-mitigating Digital Controllers in DC-DC Converters — An Experimental Investigation	3D Hybrid Integration and Functional Interconnection of a Power Transistor and its Gate Driver	Influence of the End-winding Cooling Methods on the Thermal Behavior of Induction	A Dimming Module for Controlling Power Supply to a Fluorescent Lamp Ballasted by a Non-dimmable Electronic Ballast	Time Domain Models of the EMI Sources in the Variable Speed Drives	Investigation of Magnet Arrangements in Double Layer Interior Permanent Magnet Motors	A Comparison of the Series-parallel Compensation Type DC-DC Converters Using both a Fuel Cell and a Battery	Adaptive Dynamic Control of a Bi-directional DC-DC Converter

TUESDAY, SEPTEMBER 14, 2010 *(Continued)*

Breakout Sessions • 10:00 am – 11:40 am *(Continued)*

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S42 Electric Drives: AC Machine Control	**S43 Transporation Application: Infrastructure**	**S44 AC-DC Converters: Digital Control of PFC**	**S45 Enabling Technologies: EMI Analysis And Suppression II**	**S46 Enabling Technologies: Packaging And Integration**	**S47 Electric Machines: Machine Losses and Thermal Analysis**	**S48 Energy Efficiency and Industrial Applications: Fluorescent Ballast**	**S49 DC-AC Inverters: Inverter Control and Analysis II**	**S50 Electric Machines: Fractional Slot Machines II**	**S51 DC-DC Converters: Isolated Converters IV**	**S52 DC-DC Converters: Bidirection Converters II**
10:50 am – 11:15 am	Direct Field-oriented Control of an Induction Machine Using an Adaptive Rotor Resistance Estimator	Dual Converter Active Filter and Balance Compensation on Electric Railway Systems Using the Open Delta Transformer Connection	A Simple Digital DCM Control Scheme for Boost PFC Operating in both CCM and DCM	Common Mode EMI Characteristics of Resonant Converters	Multilayer SMT High Power Density Packaging of Electronic Ballasts for HID Lamps	A Non-intrusive Winding Heating Method for Induction Motor Using Soft-starter for Preventing Moisture Condensation	Digital CCFL Drive System Using Individual Current Modulation for LCD-TV	Three Phase VSI with Reduced Output Voltage Distortion Using FPGA Based Multisampled Space Vector Modulation	Post-assembly Magnetization of Rare-earth Fractional-slot Permanent-magnet Machines Using a Two-shot Method	Forward-flyback Converter with Snubber-feedback Network for Contactless Power Supply Applications	Preventing Transformer Saturation in Bi-directional Dual Active Bridge Buck-boost DC/DC Converters
11:15 am – 11:40 am	Regulation of Permanent Magnet AC Generators Using Angle Control of Stator-connected Voltage Source Converters	Power Quality Solutions for Light Rail Public Transportation Systems Fed by Medium Voltage Underground Cables	Unified Predictive Transition Current Mode Control for Digital-controlled Power Factor Corrector	Novel Techniques to Suppress the Common Mode EMI Noise Caused by Transformer Parasitic Capacitances in DC-DC Converters	Design of High Temperature SiC Three-phase AC-DC Converter for >100C Ambient Temperature	Rotor End Losses in Multi-phase Fractional-slot Concentrated-winding Permanent Magnet Synchronous Machines	Analysis and Design Method for High Frequency Self-oscillating Electronic Ballasts	A Method for Five-phase Carrier-based PWM Modulation for Balanced and Unbalanced Reference Voltages	Three Phase Tooth-concentrated Multiple-layer Fractional Windings with Low Space Harmonic Content	Optimization Design of an Isolated DC/DC Converter Using Series Compensation on the Secondary Side	A Comparative Efficiency Study of Silicon-based Solid State Transformers

11:40 am – 1:30 pm	**Lunch**	**Grand Salon**
1:30 pm – 7:00 pm	**Exposition Open**	**Grand Salon**
1:30 pm – 3:00 pm	**Poster Session I**	**Grand Salon**
3:00 pm – 3:30 pm	**PM Break**	**Grand Salon**
3:30 pm – 5:00 pm	**Poster Session II**	**Grand Salon**

Rap Sessions • 8:00 pm – 9:00 pm

Room 201	Room 202	Room 203
Rap Session 1: Electrical Systems for Future Transportation	**Rap Session 2: Update on Wind Energy Systems**	**Rap Session 3: Electric Machine Design: 21st Century Machines Built Using 18th Century Manufacturing**

WEDNESDAY, SEPTEMBER 15, 2010

7:00 am – 7:00 pm Registration Open ..... Prefunction South

Breakout Sessions • 8:00 am – 9:40 am

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom B
	S53 DC-AC Inverters: Neutral Point Clamped Inverters	**S54 AC-DC Converters: Control of Three Phase PFC**	**S55 Sustainable Energy Applications: Ocean Wave Energy Systems**	**S56 Electric Machines: Wind Generators**	**S57 Enabling Technologies: Power Device Gate Drive Techniques**	**S58 DC-DC Converters: Magnetic Designs**	**S59 Electric Machines: Condition Monitoring and Fault Analysis I**	**S60 Sustainable Energy Applications: Wind Energy Systems I**	**S61 DC-AC Inverters: Special Topics I**	**S63 Sustainable Energy Applications: Microgrid I**
8:00 am – 8:25 am	Multi-carrier Interleaved PWM Strategies for a New Five-level NPC Inverter Using a 3-phase Coupled Inductor	Direct Power Control for Three-level Neutral Point Clamped PWM Rectifier based on Virtual Flux	Analysis of Power Extraction from Irregular Waves by All Electric Power Take Off	Optimal Selection of Excitation Capacitor for 6/3-phase Dual Stator-winding Induction Generator with the Static Excitation Controller Applied in Wind Power	A New Inductorless Bipolar Gate Driver for Control FET of High Frequency Buck Converters	High Frequency Bus Converter with Integrated Matrix Transformers for CPU and Tele-communications Applications	A Comparative Study of Permanent Magnet-synchronous and Permanent Magnet-flux Switching Machines for Fault Tolerant Drive Systems	Design and Implementation of STATCOM Combined with Series Dynamic Breaking Resistor for Low Voltage Ride-through of Wind Farms	Performance Evaluation of a New Hybrid-modulation Scheme for High-frequency-AC-Link Inverter: Applications for PV, Wind, Fuel-cell, and DER/Storage Applications	Stability Studies of a Mixed Islanded Power Network with Varspeed Units using Simplified Models of the Converters
8:25 am – 8:50 am	Improvement of EMI Behavior of NPC Multilevel Inverter Without Balancing the Voltage Bondaries of DC Bank Capacitors	Full Discrete Sliding Mode Controller for Three-phase PWM Rectifier based on Load Current Estimation	Grid Power Integration Technologies for Offshore Ocean Wave Energy	Design of New Concept Permanent Magnet Induction Wind Generator	An Integrated Segmented Gate Driver with Adjustable Driving Capability	High Power Density Interleaved DC/DC Converter Using a 3-phase Integrated Close-coupled Inductor Set Aimed for Electric Vehicles	Online Broken Rotor Bar Detection of Inverter-fed Induction Motors Operating Under Arbitrary Load Conditions	Low Voltage Ride-through of Wind Turbine based on Interior Permanent Magnet Synchronous Generators Sensorless Vector Controlled	Performance Enhancement for Digital Implementations of Resonant Controllers	Composite Energy Storage System with Flexible Energy Management Capability for Micro-grid Applications
8:50 am – 9:15 am	Improving the Performance of Protection Schemes in Three Level IGCT-based Neutral Point Clamped Converters	A Novel Control Method Using Two DC Link Current Sensors in Two Parallel Three-phase Boost Converters	Self-synchronous Control of Doubly-fed Linear Generators for Ocean Wave Energy Applications	Design and Control of a High-efficiency Doubly-fed Brushless Machine for Wind Power Generator Application	Comparison of Continuous and Discontinuous Current Source Drivers for High Frequency Applications	Trans-linked Multi-phase Boost Converter for Electric Vehicle	Automated Monitoring of Airgap Eccentricity for Inverter-fed Induction Motors under Standstill Conditions	Fault Ride-through Enhancements of Wind Turbine with Doubly-fed Induction Generator Using the Robust Variable Structure System Control	A Fast Space-vector Algorithm for Multilevel Converters without Coordinates Transformation	A New Half-bridge Based Inverter with the Reduced-capacity DC Capacitors for DC Micro-grid
9:15 am – 9:40 am	A Five/Nine-level Twelve-switch Neutral Point Clamped Inverter for High Speed Electric Drives	Voltage Sensorless Bidirectional Three-phase Unity Power Factor AC-DC Converter	Low-power Autonomous Wave Energy Harvesting Device for Remote Sensing and Communications Applications	Condition Monitoring of Wind Turbines based on Amplitude Demodulation	A Special High-frequency Soft-switched High-voltage Isolated DC/DC Power Supply for Six GCT Gate Drivers	Core-less Multiphase Converter with Transformer Coupling	Evaluation of the Detectability of Broken Rotor Bars for Double Squirrel Cage Rotor Induction Motors	Control of an Unbalanced Stand-alone DFIG-based Wind System using Predictive Current Control Method	Application of a Hybrid Discharge Reactor with D-A Mixed Control in Phenol Degradation	Integration of Battery Energy Storage Element in a CERTS Microgrid

8:00 am – 9:40 am S62 Special Session: Special Industrial Presentations ..... Grand Ballroom A

9:40 am – 10:00 am AM Break ..... Grand Salon Prefunction Area

WEDNESDAY, SEPTEMBER 15, 2010 *(Continued)*

Breakout Sessions • 10:00 am – 11:40 am

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S64 DC-AC Inverters: Motor Drive Inverters	**S65 AC-DC Converters: PFC Modeling and Control**	**S66 Sustainable Energy Applications: Photovoltaics Converters I**	**S67 Electric Machines: Reluctance Machines**	**S68 Enabling Technologies: Package Impedance Issues**	**S69 DC-DC Converters: Integrated Power Converters**	**S70 Electric Machines: Condition Monitoring and Fault Analysis II**	**S71 Sustainable Energy Applications: Wind Energy Systems II**	**S72 DC-AC Inverters: Special Topics II**	**S73 Electric Drives: Control Techniques**	**S74 Sustainable Energy Applications: Microgrid II**
10:00 am – 10:25 am	Bidirectional Rectifier-inverter Multilevel Topology without DC-link Passive Components	A Unified Practical Approach to Analyze the Stability of the Pre-regulator and Complete Two-stage PFC Power Supplies Under Average-current-mode Control	Multiple-input Boost Converter to Minimize Power Losses Due to Partial Shading in Photovoltaic Modules	Torque Density and Efficiency Improvements of a Switched Reluctance Motor for Hybrid Vehicles without Rare Earth Material	Automatic Layout Optimization of an EMC Filter	A Multi-modes Charge-pump Based High Efficiency Wide Input Range DC-DC Converter	Investigation of Influence of Bearing Load and Bearing Temperature on EDM Bearing Currents	Improvement of Power Quality for PMSG Wind Turbine Systems	An Improved Soft-switching Inverter with an Unidirectional Auxiliary Switch	An Adaptive Predictive Current Control Technique for Permanent Magnet Synchronous Motors	Distribution Voltage Control for DC Microgrid by Converters of Energy Storages Considering the Stored Energy
10:25 am – 10:50 am	A Square-wave Controller for a High Speed Induction Motor Drive Using a 3 Phase Floating Inverter Bridge	Small-signal Modeling of DCVM Cuk Converter Operating in both DC Input Voltage Source and PFC Applications	A High Efficiency Current Fed Multi-resonant Converter for High Step-up Power Conversion in Renewable Energy Harvesting	Position Estimation at Starting and Lower Speeds in Three-phase Switched Reluctance Machines Using Pulse Injection and Two Thresholds	Reduction of Stray Inductance in Power Electronic Modules Using Basic Switching Cells	A Monolithic Reconfigurable SC Power Converter with Adaptive Gain Control and On-chip Capacitor Sizing	Influence of Motor Operating Parameters on Discharge Bearing Current Activity	Fault Ride Through of DFIG Wind Turbines During Symmetrical Voltage Dip with Crowbar or Stator Current Feedback Solution	Control and Implementation of a High Voltage Series Resonant Power Supply for Industrial Electrostatic Precipitators	Comparative Study of Conventional PI-Control, PI-based State Space Control and Model Based Predictive Control for Drive Systems with Elastic Coupling	Analysis and Design of Interfacing Inverter Output Virtual Impedance in a Low Voltage Microgrid
10:50 am – 11:15 am	Interaction Between the Filter and PWM Units in The Sine Filter Configuration Utilizing Three-phase AC Motor Drives Employing PWM Inverters	Energy-based Digital Control of a Ripple Correction Circuit of an Unity-power-factor AC/DC Converter	An Interleaving Double-switch Buck-boost Converter for PV Grid-connected Inverter	A New Excitation Scheme for Polyphase Segmented Switched Reluctance Motor	Power-CAD: A Novel Methodology for Design, Analysis and Optimization of Power Electronic Module Layouts	Switching Losses Analysis in MHz Integrated Synchronous Buck Converter to Support Optimal Power Stage Width Segmentation in CMO's	New Concepts for Online Surge Testing for the Detection of Winding Insulation Deterioration	Converter Structure-based Power Loss and Static Thermal Modeling of the Press-pack IGBT-based Three-level ANPC and HB VSCs Applied to Multi-MW Wind Turbines	High-efficiency Inverter for Photovoltaic Applications	A Comparison of Control and Modulation Schemes for Medium-voltage Drives: Emerging Predictive Control Concepts versus Field Oriented Control	A Medium-voltage DC (MVDC) System with Series Active Injection for Shipboard Power System Applications
11:15 am – 11:40 am	Loss Evaluation of a Two-stage Boost Converter Using the Neutral Point of a Motor	A Fourier Based PLL for Single Phase Grid Connected Systems	Improved MPPT Performance of a Grid Connected Photovoltaic Power Conditioning System under Partially Shaded Conditions	Design and Optimization of a Synchronous Reluctance Machine with Salient poles and Flux Barriers	Separation Measurement of Parasitic Impedance on a Power Electronics Circuit Board Using TDR	Interleaved Switched-capacitor Converters with Adaptive Control	Forces and Vibrations Analysis in Industrial PM Motors Having Concentric Windings	Induction Generator Model for Unbalanced Distribution Power-flow Analysis	A Single-phase Photovoltaic Inverter Topology with a Series-connected Power Buffer	Control Method for IPMSM-based on PTC and PWM Hold Model in Overmodulation Range-study on Robustness and Comparison with Anti-windup Control	An Adaptive Controller for Inverter-interfaced DGs Connected to Grids with a Wide Range of Unknown Impedances
11:40 am – 1:30 pm	**Lunch on Own**										

WEDNESDAY, SEPTEMBER 15, 2010 *(Continued)*

Breakout Sessions • 1:30 pm – 3:10 pm

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S75 DC-AC Inverters: Z-Source Topology I	**S76 AC-DC Converters: PFC Converters**	**S77 Sustainable Energy Applications: Photovoltaics Converters II**	**S78 Electric Machines: Special Machines I**	**S79 Enabling Technologies: Thermal Management**	**S80 DC-DC Converters: Non-Isolated Converters**	**S81 Transportation Applications: Diagnotics and Fault Tolerance**	**S82 Sustainable Energy Applications: Wind Energy Systems III**	**S83 DC-DC Converters: Control Techniques I**	**S84 Electric Drives: Sensorless Drives I**	**S85 Sustainable Energy Applications: Microgrid III**
1:30 pm – 1:55 pm	Optimal Design of the Inductor in Z-source Inverter with Single Phase Shoot-through SVPWM Strategy	Bridgeless Single-stage Full-bridge Converter with One Cycle Control in the Output Voltage	Transformerless Split-inductor Neutral Point Clamped Three-level PV Grid-connected Inverter	Different Arrangements for Dual-rotor Dual-output Radial-flux Motors	Seawater Based Cold Plate for Power Electronics Cooling	A Comprehensive Multi-mode Performance Analysis of Interleaved Boost Converters	Real-time Fault Diagnostics for a Permanent Magnet Synchronous Motor Drive for Aerospace Applications	Balance and Unbalance Voltage Dips Impacts on Full Scale Converter Wind Turbines	Self-tuning Mixed-signal Optimal Controller with Improved Load Transient Waveform Detection and Smooth Mode Transition for DC-DC Converters	Temperature Issues in Saliency-tracking Based Sensorless Methods for PM Synchronous Machines	DC Micro-grid Operational Analysis with Detailed Simulation Model for Distributed Generations
1:55 pm – 2:20 pm	Power Loss Analysis of Current-fed Quasi-Z-Source Inverter	A Magnetically Coupled Passive Lossless Snubber with Low Voltage Stress for Continuous Current Mode (CCM) Boost Converter	A New Wide Input Range High Efficiency Photovoltaic Inverter	New Concept Motor that Uses Compound Magnet Motive Forces for EV Application	Dynamic Electro-thermal Modeling in PEBB Applications	Current Sharing in Multiphase ZVT Boost Converter	Fault Location in a Zonal DC Marine Power System using Active Impedance Estimation	Analysis of IGBT Power Cycling Capabilities Used in Doubly Fed Induction Generator Wind Power System	Comparison between Ramp Pulse Modulation (RPM) and Constant Frequency Modulation for the Beat Frequency Oscillation in Voltage Regulators	HF Injection-based Sensorless Technique for Fault-tolerant IPMSM Drives	A Hybrid Control Architecture for Low Voltage Microgrid
2:20 pm – 2:45 pm	Hybrid Pulse Width Modulation for Z-source Inverters	An AC/DC Power Conversion Based on Series-connected Universal Link Converter	Design and Implementation of a 5 kW Photovoltaic System with Li-Ion Battery and Additional DC/DC-Converter	Improvement of a Non-contact Elevator Guiding System by Implementation of an Additional Torsion Controller	High Power Density Design of High-current DC-DC Converter with High Transient Power	Fixed Frequency Controlled Piezoelectric 10W DC/DC Converter	Robust Absolute Position Sensing for Maglev	Novel Rotor Side Control Scheme for Doubly Fed Induction Generator to Ride through Grid Faults	Investigation of the Steady-state and Dynamic Characteristics of a Buck Converter with Nonlinear Output capacitor Current Programming	Model-based Design of a Sensorless Control Scheme for Permanent Magnet Motors Using Signal Injection	Voltage Quality Improvement of Microgrids Under Islanding Mode
2:45 pm – 3:10 pm	A Z-source Sparse Matrix Converter Under Voltage Sag Condition	Three-phase Single-switch Boost PFC Converter with High Input Power Factor	Digital Controller Development for Grid-tied Photovoltaic Inverter with Model-based Technique	Analysis of a Concentric Planetary Magnetic Gear with Strengthened Stator and Interior Permanent Magnet (IPM) Inner Rotor	Thermal Modeling and Management of the Integrated HID Ballast	Improving the Light-load Efficiency of VRMs Using Parallel Inductors	Characteristic Analysis of IPM Type BLDC Motor Considering the Demagnetization of PM by Stator Turn Fault	Flexible Control of DC-Link Voltage for Doubly Fed Induction Generator during Grid Voltage Swell	Design Oriented Model for V2 Constant On-time Control	Sensorless Control for Induction Machines Using Square-wave Voltage Injection	Decentralized LQG Control with Online Set-point Adaptation for Parallel Power Converter Systems
3:10 pm – 3:30 pm	**PM Break ..... Grand Salon Prefunction Area**										

WEDNESDAY, SEPTEMBER 15, 2010 *(Continued)*

Breakout Sessions • 3:30 pm – 5:10 pm

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S86 DC-AC Inverters: Z-Source Topology II	**S87 AC-DC Converters: Single Phase PFC**	**S88 Sustainable Energy Applications: Photovoltaics Converters III**	**S89 Electric Machines: Special Machines II**	**S90 Enabling Technologies: Wide Bandgap Power Semiconductors**	**S91 DC-DC Converters: Resonant Converters**	**S92 Transportation Applications: Drivetrains**	**S93 Sustainable Energy Applications: Wind Energy Systems IV**	**S94 DC-DC Converters: Control Techniques II**	**S95 Electric Dives: Sensorless Drives II**	**S96 Sustainable Energy Applications: Microgrid IV**
3:30 pm – 3:55 pm	Bi-directional AC-AC Z-source Inverter with Active Rectifier and Feedforward Control	Inductive Idling Boost Converter with Low Inductor Current-ripple and Improved Dynamic Response for Power Factor Correction	Power Decoupling Techniques for Micro-inverters in PV Systems	Modelling of Linear Motor End-effects for Saliency-based Sensorless Control	Comparison of 10-kV SiC Power Devices in Solid-state Transformer	Multiple Output Class E Isolated DC-DC Converter	Application of PM type DMPM in Hybrid Electric Vehicle	Advanced Power Conditioning System for Grid Integration of Direct-driven PMSG Wind Turbines	Fast Control Technique-based on Peak Current Mode Control of the Output Capacitor Current	Impact of Saturation and Current Command Selection on the Performance of Sensorless Controlled Three-pole Active Magnetic Bearings	On the Choice of Voltage Regulators for Droop-controlled Voltage Source Converters in Microgrids to Ensure Stability
3:55 pm – 4:20 pm	Controller Design for Quasi-Z-source Inverter in Photovoltaic Systems	A Front-end Converter with High Reliability and High Efficiency	PV Fed Boost Type Switched Capacitor Power Supply for a Nano Satellite	A Multi-motor Drive-based on Five-phase Tubular PM Actuators	An Investigation of SiC-SIT DC Circuit Breakers for Higher Voltage Direct Current Distribution Systems	PWM Positive Buck-boost Converter with Reduced Switching Loss Employing Quasi-resonant Operation	Comparative Evaluation of Machines for Electric and Hybrid Vehicles Based on Dynamic Operation and Loss Minimization	Development of Grid-connected Wind Energy System Employing Interior PM Synchronous Generator and Multi-pulse Rectifier	A Low Ripple Series-parallel Resonant Converter based on Robust H-infinity Control Approach	Optimal Design and Sensorless Position Control of a Piezoelectric Motor Integrated into a Mechatronic Cylinder Lock	Design of D-STATCOM for Voltage Regulation in Microgrids
4:20 pm – 4:45 pm	Modulation of Three-level Z-source Indirect Matrix Converter	High-efficiency Bidirectional AC-DC Converter for Energy Storage Systems	Ground Current Suppression for Grid Connected Transformerless PV Inverter with Unbalanced Output Filter Inductors	Design and Electromagnetic Analysis of a Prototype HTS Linear Induction Motor	A High-efficiency, High-frequency Boost Converter Using Enhancement Mode GaN DHFETs on Silicon	Analysis of Asymmetrical Duty Controlled LCC Converter with Voltage Triple Rectifier for High Voltage Power Supply	Comparison of Different Motor Design Drives for Hybrid Electric Vehicles	Comparison of SMES and SFCL for Transient Stability Enhancement of Wind Generator System	Active Stabilization of DC-DC Converters with Input LC Filters Via Current-mode Control and Input Voltage Feedback	Modeling and Compensation of Inverter Nonlinearity Effects in Carrier Signal Injection-based Sensorless Control Methods from Positive Sequence Carrier Current Distortion	Fast Architecture Generation and Evaluation Techniques for the Design of Large Power Systems
4:45 pm – 5:10 pm	A Matrix Converter Utility Interface for Grid Resources with a High-frequency Bus	A New Bridgeless Single-Stage Three-level PFC AC/DC Converter	Multiple-input Modified Inverse Watkins-Johnson Converter without Coupled Inductors	Fast Optimization of a Linear Actuator by Space Mapping Using Unique Finite Element Model	Performance of a Dual, 1200 V, 400 A, Silicon-carbide Power MOSFET Module	Analysis and Design of a Resonant LCC Converter for Low-profile Applications	Comparison of Si and SiC Inverters for IPM Traction Drive	A Low Voltage Ride-through Technique for Grid-connected Converters of Distributed Energy Resources	An Active Current Reconstruction and Balancing Strategy with DC Link Current Sensing for a Multi-phase Coupled-inductor Converter	Spectral Overlap of Saliency Signal Components in Injection Based Sensorless Controlled Induction Machines	A Hybrid Synchronous/ Fixed Reference Frame PLL for Phase Synchronization with Unbalanced Three-phase Grid Conditions

7:00 pm – 9:30 pm **ECCE Banquet**.....**Grand Salon**

THURSDAY, SEPTEMBER 16, 2010

7:00 am – 3:00 pm Registration Open..... Prefunction South

Breakout Sessions • 8:00 am – 9:40 am

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S97 Electric Machines: Permanent Magnet Machines I	**S98 DC-DC Converters: Special Topics I**	**S99 Sustainable Energy Applications: Flexible Renewable/ Alternative Energy System I**	**S100 Electric Machines: Turbine Generators**	**S101 Transportation Applications: EV/PHEV Battery Chargers**	**S102 Sustainable Energy Applications: Smart Grid Interface**	**S103 Electric Machines: Design Optimization**	**S104 DC-AC Inverters: Multi-Level Inverters I**	**S105 DC-DC Converters: Soft Switching Techniques I**	**S106 Sustainable Energy Applications: Power Quality I**	**S107 Sustainable Energy Applications: Wind Turbine Control I**
8:00 am – 8:25 am	Influence of Slot Opening on Optimal Stator and Rotor Pole Combination and Electromagnetic Performance of Flux-switching PM Brushless AC Machines	An Accurate Loss Model for Current-source Gate Driver with Interleaving BUCK Converter	A Novel Five-level Single-phase Grid-connected Converter for Renewable Distributed Systems	Structural Mass Minimization of Large Direct-drive Wind Generators Using a Buoyant Rotor Structure	A High-performance Single-phase AC-DC Power Factor Corrected Boost Converter for Plug in Hybrid Electric Vehicle Battery Chargers	Increasing Inter-area Available Transfer Capacity Using Controllable Network Transformers	An Electromagnetic-thermo-mechanical Integrated Design and Optimization Method for Surface Mount Permanent Magnet Machines Considering Load Profiles	An Investigation of Voltage Balancing Circuit for DC Capacitors in Diode-clamped Multilevel Inverters to Realize High Output Power Density Converters	Soft-switching Self-driven Buck Converter with Three-switch Cell Structure	Malfunction Mechanism of Semiconductor Circuit Breaker in HVDC Power Supply System	Growing Neural Gas based MPPT of Variable Pitch Wind Generators with Induction Machines
8:25 am – 8:50 am	Impact of the Rotor Yoke Geometry on Rotor Losses in Permanent Magnet Machines	An Integrated SIDO Boost Power Converter with Adaptive Freewheel Switching Technique	A High Frequency Link Multiport Converter Utility Interface for Renewable Energy Resources with Integrated Energy Storage	A Generic Synchronous Machine Model for Real Time Training Simulators	The Issue of Plug-in Hybrid Electric Vehicles' Grid Integration and Its Control Solution	Active Smart Wires: An Inverter-less Static Series Compensator	Maximum Torque Control for Optimal Design to Reduce Cogging Torque in Spoke Type Interior Permanent Magnet Synchronous Motor	Re-generative Asymmetrical Multi-level Converter for Multi-megawatt Variable Speed Drives	A New Concept of High Input Voltage to Low Load Voltage (1500 V- 48V) DC-DC Conversion with Hybrid ZVS-ZCS and Asymmetrical Voltage Distribution	AC Fault Ride-through Capability of VSC-HVDC Transmission Systems	Grid-connected Wind Farm Power Control Using VRB-based Energy Storage System
8:50 am – 9:15 am	Surface Permanent Magnet Synchronous Machine Design for Self-sensing Position Estimation at Zero and Low Speeds	Novel Zero-current Switching Current-fed Half-bridge Isolated DC/DC Converter for Fuel Cell Based Applications	Control of a Modular Multilevel Cascade BTB System Using Bidirectional Isolated DC/DC Converters	Advanced Signal Processing Techniques for Fault Detection and Diagnosis of a Wind Turbine Induction Generator Drive Train: A Comparative Study	Control Scheme Optimization for a Low-cost, Digitally-controlled Charger for Plug-in Hybrid Electric Vehicles	Islanding Detection in Smart Grids	FEA-based Multi-objective Optimization of IPM Motor Design Including Rotor Losses	Voltage Balancing Control and Experiments of a Novel Modular Multilevel Converter	Novel DC-DC Architecture for High Efficiency SMPS with Multiple Outputs	Three-level Converters with Selective Harmonic Elimination PWM for HVDC Application	Control of Variable Pitch, Variable Speed Wind Turbine in Weak Grid Systems
9:15 am – 9:40 am	Study of Iron Saturation in Brushless Doubly-fed Induction Machines	General Law of Non-isolated Interleaved High Step-up Topologies with Winding-cross-coupled Inductors Deduced from Isolation Counterparts	Seamless Transfer Strategy with Outer Current Loop for Three Phase Inverter in Distributed Generation	The Magneto Motive Force of a Novel Dual Stator-winding Induction Generator	A High Power, Current Sensorless, Bi-directional, 16 Phase Interleaved, DC-DC Converter for Hybrid Vehicle Application	Real-time Dynamic Thermal Rating Evaluation of Overhead Power Lines Based on Online Adaptation of Echo State Networks	Investigation of Torque and Iron Loss Characteristics of Optimized Spoke Type IPMSM Considering Motor Modeling and Motor Drive Circuit	A Modulation Technique for High Power AC/DC Multilevel Converters for Power System Integration	Zero-voltage-switching Interleaved Two-switch Forward Converter with Phase-shift Control	Input Impedance Modeling of Multipulse Rectifiers by Double-Fourier Series Method	A Battery Energy Storage Interface for Wind Power Systems with the use of Grid Side Inverter

THURSDAY, SEPTEMBER 16, 2010 *(Continued)*

9:40 am – 10:00 am **AM Break** ..... **Grand Salon Prefunction Area**

Breakout Sessions • 10:00 am – 11:40 am

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S108 Electric Machines: Permanent Magnet Machines II	**S109 DC-DC Converters: Special Topics II**	**S110 Sustainable Energy Applications: Flexible Renewable/ Alternative Energy System II**	**S111 Electric Drives: N-Phase Drives**	**S112 Transportation Applications: Energy Storage**	**S113 Sustainable Energy Applications: VAR Compensators**	**S114 Electric Machines: High Speed Machines**	**S115 DC-AC Inverters: Multi-Level Inverters II**	**S116 DC-DC Converters: Soft Switching Techniques II**	**S117 Sustainable Energy Applications: Power Quality II**	**S118 Sustainable Energy Applications: Wind Turbine Control II**
10:00 am – 10:25 am	Analysis and Measurement of 3D Torque and Forces for Permanent Magnet Motors with Slotless Windings	Sawtooth Burst Mode with Minimum On-time in Stand-by Operation of Power Supply	Predictive Control for Universal and Flexible Power Management	Two-phase Motor Drive Systems with Z-source Inverter and Hybrid PWM	System Identification-based Lead-acid Battery Online Monitoring System	Safe Current Injection Strategies for a STATCOM under Asymmetrical Grid Faults	Harmonic Loss Analysis and Air-gap Optimization of High Speed Induction Motors	Low Output Frequency Operation of the Modular Multi-level Converter	A ZVS Technique for Single-switch PWM Converters Implemented with Paralleled MOSFETS	A Simple Sag Generator Using SSRs	Review and Critical Analysis of the Research Papers Published Till Date on Maximum Power Point Tracking in Wind Energy Conversion System
10:25 am – 10:50 am	Sensorless Drive of Blushless DC Motors with Estimating Torque Constant for Home Appliance	A Linear Assisted DC/DC Converter for Envelope Tracking and Envelope Elimination and Restoration Applications	Instantaneous Active and Nonactive Power Control of Distributed Energy Resources with a Current Limiter	Six-phase Machine Drive System with Reversible Parallel AC-DC-AC Converters	Automatic Charge Equalization Circuit Based on Regulated Voltage Source for Lithium-Ion Batteries	Design and Implementation of a 154 kV, +/- 50 MVAr Transmission STATCOM Based on 21-level Cascaded Multilevel Converter	Novel High-speed, Lorentz-type, Slotless Self-bearing Motor	A Hybrid Cascaded Multilevel Inverter Application for Renewable Energy Resources Including a Reconfiguration Technique	Zeroing Transformer's DC Current in Resonant Converters with No Series Capacitors	Comparison between Conventional, GA and PSO with Respect to Optimal Capacitor Placement in Agricultural Distribution System	Network Damping Capability of DFIG-based Wind Farm
10:50 am – 11:15 am	Cogging Torque Minimization in PM Motors Using Robust Design Approach	High Efficiency Power Amplifier Based on Envelope Elimination and Restoration Technique	A Two-stage High Power Density Single-phase AC-DC Bi-directional PWM Converter for Renewable Energy Systems	A Separate Double-winding 12-phse Brushless DC Motor Drive Fed from Individual H-bridge Inverters	Power Electronics Enabled Energy Management for Energy Storage with Extended Cycle Life and Improved Fuel Economy in a PHEV	Negative-Sequence Reactive-power Control by the Modular Multilevel Cascade Converter Based on Double-star Chopper-cells (MMCC-DSCC)	Rotor Design of a High-speed Permanent Magnet Synchronous Machine Rating 100.000 RPM at 10kW	Review of Novel Multilevel Current-source Inverters with H-bridge and Common-emitter Based Topologies	Design and Implementation of a ZCS Two-switch DC-DC Forward Converter with Variable Inductor	Direct Power Control for Unified Power Flow Controller Series Converter	Mechanical Sensorless Maximum Power Tracking Control for Direct-drive PMSG Wind Turbines
11:15 am – 11:40 am	A Novel E-core Flux-switching PM Brushless AC Machine	A New Family of Marx Generator Based on Resonant Converter	A Novel Phase-shift Bidirectional DC-DC Converter with an Extended High-efficiency Range for 20 kVA Solid State Transformer	Torque Maximization in High-torque Density Multiphase Drives Based on Induction Motors	A Modularized Charge Equalizer Using Battery Monitoring IC for Series Connected Li-Ion Battery Strings in an Electric Vehicle	Four-branch Star Neutral Current Hybrid Power Filter and Var Compensator	Design of a 750,000 rpm Switched Reluctance Motor for Micro Machining	Symmetrical Hybrid Multilevel DC-AC Converter in Cascade	Rapid Simulation of Multi-resonant LLCC Converters with Capacitive Output Filter Based on an Extended First Harmonic Approximation	Harmonic Identification in a Power System Using an Echo State Network for Adaptive Power Filter Applications	Determination of Steady State Control Laws of Doubly-fed Induction Generator Using Natural and Power Variables

11:45 am – 1:40 pm **Awards Luncheon** ..... **Grand Salon**

THURSDAY, SEPTEMBER 16, 2010 *(Continued)*

Breakout Sessions • 1:40 pm – 3:20 pm

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S119 Electric Machines: IPM Machines	**S120 Dc-Dc Converters: Modeling and Analysis**	**S121 Sustainable Energy Applications: Energy Harvesting I**	**S122 Electric Drives: Control and Testing**	**S123 Transportation Applications: Power Converters**	**S124 Sustainable Energy Applications: Battery Concepts AMD Modeling**	**S125 Energy Public Policy And Economics: Electrified Transport and Hydrogren Economy**	**S126 Electric Drives: Multi-Level Drives**	**S127 DC-AC Inverters: Advanced Inverter System I**	**S128 Sustainable Energy Applications: Power Quality III**	**S129 Enabling Technologies: Magnetic Design and Optimization I**
1:40 pm – 2:05 pm	Design Tradeoffs between Constant Power Speed Range, Uncontrolled Generator Operation and Rated Current of IPM Motor Drives	Experimental Study of Chaotic Behaviour in Parallel Connected DC-DC Boost Converters with Unbalanced Inductors	Self-powered Wireless MEMS Sensor Modules for Measuring Electrical Quantities in Residential, Commercial, Distribution, and Transmission Power Systems	Closed Loop Control of Active Damped Small DC-link Capacitor Based Drive	The Electromagnetic Compatibility Design Considerations of the Input Filter of a 3-phase Inverter in a Railway Traction System	A Transient-based Approach to Estimation of the Electrical Parameters of a Lead-acid Battery Model	On-site Electrolysis Sodium Metal Production by Offshore Wind or Solar Energy for Hydrogen Storage and Hydrogen Fuel Cycle	On Interaction between Internal Converter Dynamics and Current Control of High-performance High-power AC Motor Drives with Modular Multilevel Converters	Advanced Energy Conversion System Using Sinusoidal Voltage Tracking Buck-boost Converter Cascaded Polarity Changing Inverter	Research on Active Harmonic Resister to Damping Resonance in Distribution System	Single-phase vs. Three-phase High Density Power Transformers
2:05 pm – 2:30 pm	Multi Objective Design Improvement of IPM Motor-drive Using Physic-based Motor Model	Large-signal Linearization of Boost Converter	Human Powered Axial Flux Permanent Magnet Machines: Review and Comparison	DC-link Voltage Control for Switched Reluctance Drives with Reduced DC-link Capacitance	Design of Power Electronic Building Blocks (PEBB) for MultiMW Modular Traction Converters	Improvement of Electrical Modeling of NiMH Battery for Application of Microgrid System	Flexible Electric Vehicle (EV) Charging to Meet Renewable Portfolio Standard (RPS) Mandates and Minimize Green House Gas Emissions	Power Quality Enhancement in High Power Multi-level Drives	A New Approach for Real-time Multiple Open-circuit Fault Diagnosis in Voltage Source Inverters	Novel Current Limitation Technique without Current Feedback for Digital-controlled Battery Charger in UPS Applications	Inductor Design Methods with Low-permeability RF Core Materials
2:30 pm – 2:55 pm	Unbalanced Operation of Current Regulated Sine-wave Interior Permanent Magnet Machines	Design of High Performance Point of Load Converters with Ultra-low Output Voltage Ripple	Wideband Energy Harvesting for Resonant Piezoelectric Devices	Three-phase Electric Drive with Modified Electronic Smoothing Inductor	Design and Implementation of Fully Digital-controlled 400Hz Active Power Filter for Aircraft Applications	Analysis of an Electro-mechanical Battery for Rural Electrification in Sub-Saharan Africa	Financial Incentives to Encourage Demand Response Participation by Plug-in Hybrid Electric Vehicle Owners	Model Predictive Direct Current Control for Multi-level Inverters	Dynamic Voltage Balancing of Series Connected IGBTs Using Slope Regulating and Voltage Clamping	Elimination of Transfer Time Effects in Line-interactive and Passive Standby UPSs by Means of a Small-size Inverter	New Core Loss Measurement Method For High Frequency Magnetic Materials
2:55 pm – 3:20 pm	Implementation and Control of a PMSM Self-bearing Motor Drive	State Space Decoupling Control Design Methodology for Switching Converters	Wireless Power Transfer Using Weakly Coupled Magnetostatic Resonators	Parameter Identification of an Induction Motor at Standstill Using Vector Constructing Method	Multiphase Multilevel Modular DC-DC Converter for High Current High Gain TEG Application	Series-Connected Reconfigurable Multicell Battery: A Novel Design towards Smart Batteries	Investigations into the Minimization of Electrical Costs for Traction-type Elevators	Introduction of a Large Scale High Efficiency 5-level IEGT Inverter for Oil and Gas Industry	High-frequency DC Link Grid-connected Power Conversion with Improved Active Clamp	A Hybrid Multilevel Inverter with Both Staircase and PWM Switching Schemes	Optimal Design of a Pot Core Rotating Transformer
3:20 pm – 3:40 pm	**PM Break** ..... **Grand Salon Prefunction Area**										

THURSDAY, SEPTEMBER 16, 2010 *(Continued)*

Breakout Sessions • 3:40 pm – 4:55 pm

	Room 201	Room 202	Room 203	Room 204	Room 205	Room 206	Room 207	Grand Ballroom C	Grand Ballroom D	Grand Ballroom A	Grand Ballroom B
	S130 Electric Drives: Improved PWM Methods	**S131 DC-DC Converters: System Architectures**	**S132 Sustainable Energy Applications Energy Harvesting II**	**S133 Electric Drives: Sensing Techniques**	**S134 Sustainable Energy Applications: Fuel Cell Power Systems**	**S135 Enabling Technologies: Power Electronics Modeling and Simulation Tools**	**S136 Energy Efficiency and Industrial Applications: Special Topics**	**S137 Enabling Technologies: Power Semiconductors III**	**S138 DC-AC Inverters: Advanced Inverter System II**	**S139 Energy Public Policy and Economics: Reducing Renewable Energy Cost with Power Electronics and Carbon Trading**	**S140 Enabling Technologies: Magnetic Design and Optimization II**
3:40 pm – 4:05 pm	Pulse-width Modulation Technique for BLDCM Drives to Reduce Commutation Torque Ripple without Calculation of Commutation Time	Modeling and Simulation of a Distributed Power System for Avionic	An Input-powered Active AC/DC Converter with Zero Standby Power for Energy Harvesting Applications	A Method for Speed-sensorless Identification of Two-mass-systems	Design and Experimental Validation of a Robust Control Method for a Hybrid Fuel Cell Power Generation System	Efficient CAD Tool for Power Electronics Compensator Design	A Review of Monitoring and Identification Methods for Electric Loads in Commercial and Residential Buildings	Analysis of Static Voltage Balance of Series Connected Self-power ETOs	Analysis and Suppression of a Common Mode Resonance in the Cascaded H-bridge Multilevel Inverter	An Alternative Mechanism for Carbon Emission Permit Price Volatility Mitigation	Selection of the Appropriate Winding Setup in Planar Inductors with Parallel Windings
4:05 pm – 4:30 pm	Vector Quantized Spread Spectrum Modulation Scheme for Three Level Inverters	The Analysis of DC-DC Converter Topologies Based on Stackable Voltage Elements	A New Single Stage AC-DC Converter for Low Voltage Electromagnetic Energy Harvesting	Compensation of Analog Rotor Position Errors Due to Nonideal Sinusoidal Encoder Output Signals	Techniques for Efficiency Gains in Soft Switching Full-bridge Fuel Cell Power Conversion	Modeling and Evaluation of Diode Reverse Recovery in Discrete-transition Simulators	Design of a Supercapacitor Based Storage System for Improved Elevator Applications	The Integrated Emitter Turn-off Thyrister (IETO) — An Innovative Thyristor Based High Power Semiconductor Device Using MOS Assisted Turn-off	Optimal Pulsewidth Modulation of Multilevel Inverters for Low Switching Frequency Control of Medium Voltage High Power Industrial AC Drives	Reduction of Green House Gas Emission by Clean Power Trading	A High Efficient Integrated Planar Transformer for Primary-parallel Isolated Boost Converters
4:30 pm – 4:55 pm	Single Current Sensor Operation with Fixed Sampling Points based on TSPWM	Observer-based Fault Diagnosis of Power Electronics Systems	Design of a Low Cost Self-powered "Stick-on" Current and Temperature Wireless Sensor for Utility Assets	Using the Motor Drive as a Sensor to Extract Spatially Dependent Information During Servo Operation	Grid-interfaced Fuel Cell Energy System Based on a Boost-inverter with a Bi-directional Back-up Battery Storage	Digital Flickermeter Design and Implementation based on IEC Standard	Applying a Novel Power Management Unit (PMU) to Replace the Large DC Bus Electrolytic Capacitors in Fuel Cell Power Generation System	High Frequency Switching High-power Converter with SiC-PiN Diodes and Si-IEGTs	Seven-level Cascaded ANPC-based Multilevel Converter	Transportation Applications Using Practical Hydrogen-on-demand Systems	Planar Integrated Magnetics Design in Wide Input Range DC-DC Converter for Fuel Cell Application