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Special Session (TS6): Fuel Cell and Hybrid Energy Storage Technologies **Organizers:** Elena Breaz, University of Technology of Belfort-Montbeliard, France Fei Gao, University of Technology of Belfort-Montbeliard, France	
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Technical Session (TS8): Electric Machines **Session Chairs:** Xu Yang, Faraday Future, USA Rakib Islam, Nexteer Automotive, USA	
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Afternoon Breakout Sessions

Special Session (TS9): Switched Reluctance Motor Drives **Organizer:** Jin Ye, San Francisco State University, USA **Session Co-Chair:** Wen Cai, University of Texas, Dallas USA	
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2:00 PM – 3:20 PM *Venue: Regency C-D*	
TS10-1	**SiC BJT Proportional Base Driver with Collector-emitter Voltage Measurement and a Switching Regulator 802** Alejandro Pozo Arribas and Mahesh Krishnamurthy *Illinois Institute of Technology, United States*
TS10-2	**Stability Issue of DC-DC Converters with Input LC Filter via Flatness-Based Control 808** Roghayeh Gavagsaz-Ghoachani[1], Matheepot Phattanasak[2], Majid Zandi[3], Jean-Philippe Martin[1], Babak Nahidmobarakeh[1], and Serge Pierfederici[1] *[1]GREEN, University of Lorraine, France, [2]RERC, KMUTNB, Thailand, [3]Shahid Beheshti University, Iran*
TS10-3	**A New Approach for DC Bus Voltage Balancing in a Solar Electric Vehicle Charging Station 814** Ivano Forrisi[1], Jean-Philippe Martin[1], Giovanni Petrone[2], Giovanni Spagnuolo[2], Babak Nahid-Mobarakeh[1], and Serge Pierfederici[1] *[1]University of Lorraine, France, [2]University of Salerno, Italy*
TS10-4	**Enhanced and Fast Detection of Open Circuit Faults in Inverters for Electric Drives 819** Heinrich T. Eickhoff[1], Roland Seebacher[1], Annette Muetze[1], and Elias G. Strangas[2] *[1]Graz University of Technology, Austria, [2]Michigan State University, East Lansing, MI, United States*
TS10-5	**Performance Comparison and Device Analysis between Si IGBT and SiC MOSFET 825** Ahmad Albanna[1], Andrew Malburg[1], Mohammad Anwar[1], Atul Gupta[2], and Nidhi Tiwari[2] *[1]General Motors, United States, [2]General Motors, India*

Wednesday, June 29, 2016
Afternoon Breakout Sessions

Technical Session (TS11): Conductive/Inductive Charging Technology **Session Chairs:** Nevin Altinyurt, Ford Motor Company Maggie Wang, University of Michigan-Dearborn, USA	
2:00 PM – 3:20 PM *Venue: Regency E-F*	
TS11-1	**Performance Analysis of a High-efficiency Multi-winding Wireless EV Charging System Using U-U and U-I Core Geometries 831** Vamsi Krishna Pathipati[1], Najath Abdul Azeez[1], Kunwar Aditya[1], Nicholas Dohmeier[2], Chris Botting[2], and Sheldon Williamson[1] *[1]University of Ontario-Institute of Technology, Canada, [2]Delta-Q Technologies, Canada*
TS11-2	**Analysis and Design of Coupling Capacitors for Contactless Capacitive Power Transfer Systems 839** Deepak Rozario, Najath Abdul Azeez, and Sheldon Williamson *University of Ontario Institute of Technology, Canada*
TS11-3	**Infrastructure Optimization and Economic Feasibility of In-Motion Wireless Power Transfer 846** Braden J. Limb[1], Thomas H. Bradley[2], Regan Zane[1], and Jason C. Quinn[1] *[1]Utah State University, United States, [2]Colorado State University, United States*
TS11-4	**Analytical Modeling of Wireless Power Transfer (WPT) Systems for Electric Vehicle Application 850** Madhu Chinthavali, Zhiqiang Wang, and Steven Campbell *Oak Ridge National Laboratory, United States*
TS11-5	**A High-Power Wireless Charging System Development and Integration for a Toyota RAV4 Electric Vehicle 858** Omer Onar, Steven Campbell, Larry Seiber, Cliff White, and Madhu Chinthavali *Oak Ridge National Laboratory, United States*

Technical Session (TS12): Electric Machines and Actuators **Session Chairs:** James Jiang, McMaster University, Canada Dhafar Al-Ani, Fiat Chrysler Automobiles, USA	
2:00 PM – 3:20 PM *Venue: Regency G-H*	
TS12-1	**Discussion of Machine Placement and Integration on the Thermal Design of HEV IPM Machines 866** Christian Paar and Annette Muetze *Graz University of Technology, Austria*
TS12-2	**Comparative Study Between Interior and Surface Permanent Magnet Traction Machine Designs 872** Rong Yang, Nigel Schofield, and Ali Emadi *McMaster University, Canada*
TS12-3	**New Perspective to Understand Winding Configurations of Even and Odd Numbers of Pole Flux-Switching Permanent Magnet Machine 878** Ju Hyung Kim, Yingjie Li, Dheeraj Bobba, and Bulent Sarlioglu *University of Wisconsin-Madison, United States*
TS12-4	**Internal Short-Circuit Modeling and Analysis Based on a Dynamic Model for Interior Permanent Magnet Synchronous Machines 884** Pablo Castro Palavicino, Hilmi Gurleyen, Yujiang Wu, and Bulent Sarlioglu *University of Wisconsin-Madison, United States*
TS12-5	**A Field Reconstruction Method for Modeling of Interior Permanent Magnet Synchronous Machines 890** Lei Gu[1], Mehdi Moallem[2], Emine Bostanci[1], Shiliang Wang[1], and Devendra Patil[1] *[1]University of Texas at Dallas, United States, [2]Isfahan University of Technology, Iran*

Wednesday, June 29, 2016
Afternoon Breakout Sessions

	Technical Session (TS13): EV, HEV and PHEV System Architectures
	Session Chairs:
	Hadi Malek, Ford Motor Company USA
	David A. LaRue, FEV North America, Inc.

	2:00 PM – 3:20 PM
	Venue: Regency J-K

TS13-1	**Evaluation of Torque Compensation Control Algorithm of IPM Machines Considering the Effects of Temperature Variations 896** Silong Li[1], Bulent Sarlioglu[1], Sinisa Jurkovic[2], Nitin Patel[2], and Peter Savagian[2] *[1]University of Wisconsin-Madison, United States, [2]General Motors Company, United States*
TS13-2	**Electrification of Turbocharger and Supercharger for Downsized Internal Combustion Engines and Hybrid Electric Vehicles-Benefits and Challenges 903** Woongkul Lee, Erik Schubert, Yingjie Li, Silong Li, Dheeraj Bobba, and Bulent Sarlioglu *University of Wisconsin – Madison, United States*
TS13-3	**Evaluation and Selection of Accumulator Size in Electric-Hydraulic Hybrid (EH2) Powertrain 909** Geng Niu[1], Fei Shang[1], Mahesh Krishnamurthy[1], and Jose Garcia[2] *[1]Illinois Institute of Technology, United States, [2]Purdue University, United States*
TS13-4	**New Over Current Protection Technology Addressing DC Transportation 915** Remy Ouaida[1], Jean Francois Depalma[2], and Gille Gonthier[3] *[1]Innovation and RD, France, [2]Innovation and RD VP, France, [3]BU Industrie, France*
TS13-5	**Optimization of Hybrid Electric Vehicles with Coupled Thermal and Electrical Simulation 921** Quentin Werner[1,2], Serge Pierfederici[2], Noureddine Takorabet[2], and Babak Nahidmobarakeh[2] *[1]Daimler AG / University of Lorraine, Germany, [2]University of Lorraine, France*

	Technical Session (TS14): Modeling and Optimization
	Session Chairs:
	Christian Paar, Graz University of Technology, Austria
	Nigel Schofield, McMaster University, Canada

	4:20 PM – 5:40 PM
	Venue: Regency A-B

TS14-1	**Design Optimization for Reducing Harmonic Distortion of Flux Linkage in Low Pole Flux Switching Permanent Magnet Machines 927** Dheeraj Bobba, Yingjie Li, and Bulent Sarlioglu *University of Wisconsin – Madison, United States*
TS14-2	**Battery Voltage Optimization of a Variable DC Bus Voltage Control Powertrain for Medium Duty Delivery Trucks for Various Drive Cycles 933** Ali Najmabadi, Kieran Humphries, Benoit Boulet and Tanvir Rahman *McGill University, Canada*
TS14-3	**An Energy Demand Model for the Microscopic Simulation of Plug-In-Hybrid Vehicles 939** Lorenz Ammon, Bernd Huber, Florian Huebler, Ruediger Berndt, Sebastian Schellenberg, and Vitali Schneider *University of Erlangen-Nuremberg, Germany*
TS14-4	**Optimal Energy/Time Routing in Battery-powered Vehicles 945** Mahmoud Faraj and Otman Basir *University of Waterloo, Canada*
TS14-5	**Medium-Duty Plug-in Electric Delivery Truck Fleet Evaluation 951** Robert Prohaska, Adam Ragatz, Mike Simpson, and Kenneth Kelly *NREL, United States*

Wednesday, June 29, 2016
Afternoon Breakout Sessions

	Technical Session (TS15): Power Electronics and Control Session Chairs: Matthias Preindl, Columbia University, USA Babak Nahidmobarakeh, GREEN, University of Loraine, France
	4:20 PM – 5:40 PM *Venue: Regency C-D*
TS15-1	**Investigation of Common Mode Noise in Electric Propulsion System High Voltage Components in an Electrified Vehicle 957** Avinash Kishore[1], Chetan Patki[1], William Ivan[2], Mohammad Anwar[2], and Mehrdad Teimorzadeh[2] *[1]General Motors, India, [2]General Motors, United States*
TS15-2	**A Novel Wireless Converter Topology for Dynamic EV Charging 963** Steven I Ruddell[1], Udaya K Madawala[1], Duleepa J Thrimawithana[1], and Martin Neuburger[2] *[1]University of Auckland, New Zealand, [2]Hochschule Esslingen University, Germany*
TS15-3	**An Opportunistic Wireless Charging System Design for an On-Demand Shuttle Service 968** Kate Doubleday, Andrew Meintz, and Tony Markel *National Renewable Energy Laboratory, United States*
TS15-4	**Full Electric Ship Propulsion, Based on a Dual Nine-Switch Inverter Topology for Dual Three-Phase Induction Motor Drive 974** Carlos Reusser *Universidad Tecnica Federico Santa Maria, Chile*
TS15-5	**Three-Phase Common Mode Inductor Design and Size Minimization 980** Di Han, Casey Morris, Woongkul Lee, and Bulent Sarlioglu *University of Wisconsin-Madison, United States*

	Technical Session (TS16): Smart Grid, Electrical Infrastructure, and Vehicle-to-Grid Interface Session Chairs: Richard Raustad, University of Central Florida, USA Omer C. Onar, Oak Ridge National Laboratory, USA
	4:20 PM – 5:40 PM *Venue: Regency E-F*
TS16-1	**Green Energy based Inductive Self-Healing Highways of the Future 988** Venugopal Prasanth, Natalia Scheele, Erwin Visser, Aditya Shekhar, Gautham Ram Chandra Mouli, Pavol Bauer, and Sacha Silvester *Delft University of Technology, Netherlands*
TS16-2	**A Communication Architecture for Wireless Power Transfer Services based on DSRC Technology 996** Andrea Gil-Batres[1], Ashok Moghe[2], and Joachim Taiber[1] *[1]Clemson University ICAR, United States, [2]Cisco Systems Inc., United States*
TS16-3	**Stochastic Energy Management for Microgrids with Constraints under Uncertainty 1004** Jianzhe Liu, Giorgio Rizzoni and Benjamin Yurkovich *The Ohio State University, United States*
TS16-4	**Implementation of Dynamic Charging and V2X Using Chademo and CCS/Combo DC Charging Standard 1010** Gautham Ram Chandra Mouli[1], Johan Kaptein[2], Pavol Bauer[1], and Miro Zeman[1] *[1]Delft University of Technology, Netherlands, [2]ABB B.V. EV Charging Infrastructure, Netherlands*
TS16-5	**A Modified Resonant Converter for Capacitive Power Transfer Systems 1016** Deepak Rozario, Najath Abdul Azeez, and Sheldon Williamson *University of Ontario Institute of Technology, Canada*

Wednesday, June 29, 2016
Afternoon Breakout Sessions

	Technical Session (TS17): Diagnostics and Fault Tolerant Operation, and Policy **Session Chairs:** Ryan Ahmed, Samsung SDI, USA Sara Dadras, Ford Motor Company, USA
	4:20 PM – 5:40 PM *Venue: Regency G-H*
TS17-1	**Economic and CO2 Emission Benefits of a Solar Powered Electric Vehicle Charging Station for Workplaces in the Netherlands 1022** Gautham Ram Chandra Mouli, Mark Leendertse, Prasanth Venugopal, Pavol Bauer, Sacha Silvester, Stefan van de Geer, and Miro Zeman *Delft University of Technology, Netherlands*
TS17-2	**Emergent Entrepreneurial Networks for the Transition to Urban Mobility 1029** David Bodde and Jianan Sun *Clemson University, United States*
TS17-3	**Thrust Sensor Based Nonlinear Motor Control for Quadcopters 1035** Steven Elliott and Thomas Carr *Southern Methodist University, United States*
TS17-4	**On-line Fault Diagnosis of DC Motor based on the Hidden Markov Model 1040** Jiayuan Zhang, Wei Zhan, and Mehrdad Ehsani *Texas A&M University, United States*
TS17-5	**Fault Diagnosis and Fault Tolerant Control for Electrified Vehicle Torque Security 1047** Jiyu Zhang[1], Tianpei Li[1], Alessandro Amodio[2], Bilin Aksun-Guvenc[1], and Giorgio Rizzoni[1] *[1]The Ohio State University, United States, [2]Politecnico di Milano, Italy*