

2013 IEEE Transportation Electrification Conference and Expo

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16 – 19 June 2013**



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Technical Presentations

Monday, June 17, 2013

Poster Session 1: Power Electronics, Motor Drives, and Vehicular Applications

Session Chairs:

Dr. Avoki M. Omekanda, Staff Research Engineer, General Motors – Global R&D Center

Dr. Emad Dlala, Application Engineer – Ansys Inc.

Monday, June 17, 2013

12:00 PM – 2:00 PM

Venue: Great Lakes Center (Exhibit Hall)

-
- PS-1 **A Simplified Power Loss Calculation Method for PFC Boost Topologies**%
Fariborz Musavi¹, Deepak S. Gautam¹, Wilson Eberle² and William G. Dunford²
¹Delta-Q Technologies Corp., Canada, ²The University of British Columbia, Canada
-
- PS-2 **A Novel Highly Efficient Tank-Less Inverter for Transportation Applications**B#5
Abhinava Chaitanya Moreddy and Venkataraman Aditya
Nanyang Technological University, Singapore
-
- PS-3 **Neutral-Point Voltage Balancing of Three-Level Inverter Using Modified Carrier-Based Space Vector Modulation and THD Comparison with the Two-Level Inverter***
Lekha Sejpal¹, Luiz Lopes¹, Amar Mohammed² and Sheldon Williamson¹
¹Concordia University, Canada, ²TM4 Inc., Canada
-
- PS-4 **Analysis and Design of Dual Clamp Current Fed DC-DC Converter for a 28V Li-Ion Electric Accumulator**%
Parampreet Kaur Toor¹, Ali Emadi¹ and Hassan A. Kojori²
¹McMaster University, Canada, ²Honeywell Aerospace, Canada
-
- PS-5 **Analysis and Design of a High Voltage Electric Accumulator**%-
Abdul Lateef¹, Ali Emadi¹ and Hassan Kojori²
¹McMaster University, Canada, ²Honeywell Aerospace, Canada
-
- PS-6 **Design Considerations for Wireless Electric Vehicle Charging**&
Matthew Bloom, Geng Niu and Mahesh Krishnamurthy
Illinois Institute of Technology, USA
-
- PS-8 **Multiple Input Integrated DC/DC Converters and Supervisory Control for Fuel**' %

Cell/Battery/Ultracapacitor Electric Vehicle

Seyoung Kim and Sheldon Williamson
Concordia University, Canada

- PS-9 **An Electro-Thermal Cycle-Lifetime Estimation Model for LiFePO₄ Batteries** -
Junyi Shen, Serkan Dusmez, and Alireza Khaligh
University of Maryland at College Park, USA
-
- PS-10 **Study of Permanent Magnet Machine Based Flywheel Energy Storage System for ()
Peaking Power Series Hybrid Vehicle Control Strategy**
Xiaomin Lu, Lakshmi Varaha Iyer, Kaushik Mukherjee and Narayan Kar
University of Windsor, Canada
-
- PS-11 **Hybrid Energy Storage System (HESS) in Vehicular Applications: A Review On) %
Interfacing Battery And Ultra-capacitor Units**
Amir Ostadi¹, Mehrdad Kazerani¹ and Shih-Ken Chen²
1University of Waterloo, Canada, 2General Motors, USA
-
- PS-12 **Fault Sensitive Modeling and Diagnosis of PEM Fuel Cell for Automotive) ,
Applications**
Ali Mohammadi¹, David Bouquain¹, Deatrice Bouriot¹, Abdesslem Djerdir¹ and Davood
Khaburi²
¹Universite de Technologie de Belfort-Montbeliard, France, ²University of Science and
Technology, Iran
-
- PS-13 **Pulse Charger with Zero Current Switching and Isolation for Electric Vehicles and* ()
Renewable Energy Applications**
Sunil Abeyratne¹, Parami Wijesinghe¹ and Chamika Liyanagedera²
¹University of Peradeniya, Sri Lanka, ²Purdue University, USA
-
- PS-14 **Review and Comparison of Inductive Charging Circuit Topologies for Electric and* -
Hybrid Electric Vehicles**
Bernardo Peschiera and Sheldon Williamson
Concordia University, Canada
-
- PS-15 **Wavelet-Transform Based Energy and Power Decoupling Strategy for an+)
Ultracapacitor-Battery Hybrid Power-Split Gear Powertrain**
Serkan Dusmez and Alireza Khaligh
University of Maryland at College Park, USA
-
- PS-16 **Study of the Electric Power Balance in a Vehicle for the Choice of the Battery , &
Gianmarco Capano, Maurizio Mozzone and Narayan Kar
University of Windsor, Canada**
-
- PS-17 **Extended Kalman Filter Based Battery State Of Charge (SOC) Estimation for , ,
Electric Vehicles**
Chenguang Jiang, Allan Taylor, Chen Duan and Kevin (Hua) Bai
Kettering University, USA
-

- PS-18 **Study of Misalignment for On Road Charging** ' '
 Venugopal Prasanth and Pavol Bauer
 Delft University of Technology, Netherlands
-
- PS-19 **SOC Estimation for Aged Lithium-Ion Batteries Using Model Adaptive Extended Kalman Filter**%\$%
 Saeed Sepasi, Reza Ghorbani and Bor Yann Liaw
 University of Hawaii at Manoa, USA
-
- PS-20 **Simulation Analysis of a Pitch Trim Actuator**%\$+
 Ganga Jayaraman and Zenon Szulyk
 Woodward Inc., USA
-
- PS-21 **A Comprehensive Review of Power Electronic Converter Topologies to Integrate Photovoltaics (PV), AC Grid, and Electric Vehicles**%&
 Nina Naghizadeh and Sheldon Williamson
 Concordia University, Canada
-
- PS-22 **Brushless Wound-Rotor [Synchronous] Doubly-Fed Machine only By Brushless Real-time Control**%&-
 Frederick Klatt
 Best Electric Machine, USA
-
- PS-23 **Electrical Bearing Damage -- A Lurking Problem in Inverter-Driven AC Traction Motors**%&+
 Adam Willwerth and Matthew Roman
 Electro Static Technology, USA
-
- PS-24 **Space Vector Based Field Oriented Control of Permanent Magnet Synchronous Motor with a 3-Level Scheme**% %
 Pinkymol Harikrishna Raj, Ali Iftekhar Maswood and Aditya Venkataraman
 Nanyang Technological University, Singapore
-
- PS-25 **System Identification for Fault Diagnosis of Permanent Magnet Machines**% +
 Dusan Progovac, Le Yi Wang and George Yin
 Wayne State University, USA
-
- PS-26 **Optimal Design Considerations for Interior Permanent Magnet Motor for a Range-Extended Electric Vehicle**%&
 Yong Jiang, Zhi Yang and Mahesh Krishnamurthy
 Illinois Institute of Technology, USA
-
- PS-27 **Poly-Phase Motor Drives Under Fault and Normal Conditions: Application for a Five-Phase Induction Motor**%& ,
 Salem Alloune
 University of Bejaia, Algeria
-
- PS-28 **Regenerative Braking of Battery-Powered Converter-Controlled PM Synchronous Machines**% '
 Aravind Samba Murthy and David Taylor

Technical Session 1: Power Electronics- I

Session Chairs:

Dr. Chandra Namuduri, Technical Fellow – General Motors R&D Center

Elias Aymana, Cummins Generation

Monday, June 17, 2013

2:00 PM – 3:20 PM

Venue: Regency J-K

-
- S1-1 **Analysis and Optimization of Buffer Circuits in High Current Gate Drive** -
Yang Xue, Zhiqiang Wang, Leon Tolbert and Benjamin Blalock
University of Tennessee, USA
-
- S1-2 **Comprehensive Topological Analyses of Isolated Resonant Converters in PEV
Battery Charging Applications**
Haoyu Wang and Alireza Khaligh
University of Maryland at College Park, USA
-
- S1-3 **Wide Bandgap Device Characteristics for Hybrid Electric Vehicle Applications**
Ranbir Singh
GeneSic Semiconductor Inc., USA
-
- S1-4 **A Comparative Evaluation of Control Techniques for Grid-Side AC-DC Converter in a
Two-Stage Level-two Bidirectional Battery Charger**
Noreen Wong, Kun Zhuge and Mehrdad Kazerani
University of Waterloo, Canada
-

Coffee Break

3:20 PM – 4:20 PM

Technical Session 2: Advances in Transportation (Industry Presentation-Only session)

Session Chairs:

John Gibson, Chief Engineer – Chrysler Group LLC

Silva Hiti, Technical Fellow – General Motors

Monday, June 17, 2013

4:20 PM – 5:40 PM

Venue: Regency J-K

-
- S2-1 **Hybrid Power Electronics Development Challenges to VDA specifications**
-

Brian Peaslee
Magna Electronics, USA

S2-2 **Advanced Solutions and Optimization for Electric Machines**B#5
Emad Dlala
Ansys Inc., USA

S2-3 **Inverters for HEV/PHEV/BEV**B#5
Steven Kowalec
Continental Corporation, USA

S2-4 **Magnet Options for Traction Motor Applications**B#5
Steve Constantinides
Arnold Magnetics, USA

Tuesday, June 18, 2013

Poster Session 2: Transportation, Standards, Infrastructure and Policies

Session Chairs:

Dr. Srdjan Lukic, North Carolina State University

Dr. Baiming Shao, Technical Specialist - Mercedes Benz R&D

Tuesday, June 18, 2013

12:00 PM – 2:00 PM

Venue: Great Lakes Center (Exhibit Hall)

PS-29 **Electric Motor Control for Hybrid Electric Vehicles based on Different Driving Cycles**%+ +
Yi Hou¹, Alexandre Ravey², David Bouquain², Fei Gao², Abdellatif Miraoui² and Weiguo Liu¹
¹Northwestern Polytechnical University, China, ²Universite de technologie de Belfort-Montbeliard, France

PS-30 **Modeling and Simulation of a Photovoltaic (PV) Based Inductive Power Transfer & Electric Vehicle Public Charging Station**% &
Dimko Miskovski and Sheldon Williamson
Concordia University, Canada

PS-31 **Comparison Criteria for Hybrid/Electric Vehicles Traction System Architectures**% ,
Alexandre Battiston¹, Jean-Philippe Martin¹, El-Hadj Miliiani², Babak Nahid-Mobarakeh¹,
Serge Pierfederici¹ and Farid Meibody-Tabar¹
¹Universite de Lorraine, France, ²IFP Energies Nouvelles, France

PS-32 **Dynamic Decoupling Control of a Centrifugal Compressor for Fuel Cell Systems for Transportation Applications**% (

Dongdong Zhao¹, Qing Zheng², Fei Gao¹, David Bouquain¹, Bo Li² and Abdellatif Miraoui¹
¹University of Technology of Belfort-Montbéliard, France, ²Gannon University, USA

-
- PS-33 **Plug-in Hybrid Electric Vehicle Energy System Using Home-to-Vehicle and Vehicle-to-Home: Optimization of Power Converters Operations**
Swathi Rao¹, Berthold Florence^{2, 3}, Pandurangavittal Koppal¹, Blunier Benjamin², Bouquain David², Sheldon Williamson³ and Miraoui Abdellatif²
¹National Institute of Technology, India, ²University of Technology of Belfort-Montbéliard, France, ³Concordia University, Canada
-
- PS-34 **Analysis of Electric Vehicle Impacts in New Mexico Urban Utility Distribution Infrastructure**
Brian Arellano¹, Santiag Sena², Shahin Abdollahy², Olga Lavrova², Sara Stratton¹, and Jon Hawkins¹
¹Public Utility Service Company of New Mexico, USA, ²University of New Mexico, USA
-
- PS-35 **Improving the Performance of an Active Power Filter as a Part of a Next Generation, Multifunctional, High Power, Electrical Vehicle Charging Station**
Yongbin Chu, Shuo Wang and Russell Crosier
-
- PS-36 **Development of a Predictive Model for Regenerative Braking System**
Andrea Caratti, Gabriele Catacchio, Carlo Gambino and Narayan Kar
University of Windsor, Canada
-
- PS-37 **Degraded Control Strategy Using State-of-Health in Fuel Cell Hybrid Electric Vehicle**
Sebastien Faivre, Alexandre Ravey, David Bouquain and Abdesslem Djerdir
University of Technology of Belfort-Montbéliard, France
-
- PS-38 **Electric Go-Kart with Battery-Ultracapacitor Hybrid Energy Storage System**
Wellington Avelino¹, Fellipe Garcia², Andre Ferreira³ and Jose Antenor Pomilio¹
¹University of Campinas, Brazil, ²Ekion Electric Vehicles Technologies, Brazil, ³Federal University Juiz de Fora, Brazil
-
- PS-39 **Systematic Approach to the Modeling and Control of Hybrid Electric Vehicle Powertrains**
David Taylor
Georgia Institute of Technology, USA
-
- PS-40 **Comprehensive Energy Loss Minimization Strategy for Parallel Plug-in Hybrid Electric Vehicles**
Changjian Hu, Yimin Gao and Alex Q. Huang
North Carolina State University, USA
-
- PS-41 **Design Study of Parallel HEV Drive Train with Full Size Engine**
Lin Lai and Mehrdad Ehsani
Texas A&M University, USA
-

On Electrification of Mass Excavation

- PS-42 Erik Uhlin and Joakim Unnebaeck
Volvo Construction Equipment, Sweden
-
- PS-43 **Distance Estimation Algorithm for Plug-In Hybrid Electric Vehicle Control Strategy** & Alexandre Ravey¹, Rui Wang¹, Srdjan M. Lukic² and Abdellatif Miraoui¹
¹University of Technology of Belfort-Montbeliard, France, ²North Carolina State University, USA
-
- PS-44 **Electric Vehicle Supply Equipment: A Safety Device** * Kenneth Brown
Leviton Manufacturing Co. Inc., USA
-
- PS-45 **Methodology for Efficiency and Performance Evaluation in Electrical Vehicles in Bogota DC** Mateo Cortes Guzman, Jaime Ramirez Parra and Javier Rosero Garcia
Universidad Nacional de Colombia, Colombia
-
- PS-46 **The Critical Role of Microgrids in Transition to a Smarter Grid: A Technical Review** & + Adhithya Ravichandran, Pawel Malysz, Shahin Sirouspour and Ali Emadi
McMaster University, Canada
-
- PS-47 **A Test Bed to Monitor Smart Grid Power Quality** & + (Nafia Al-Mutawaly^{1,2} and Mehdi Alimardani²
¹Mohawk College, Canada, ²McMaster University, Canada
-
- PS-48 **Maximizing the Penetration of Plug-In Electric Vehicles in Distribution Network** & +, Junhui Zhao, Yang Wang, Caisheng Wang, Feng Lin and Le Yi Wang
Wayne State University, USA
-
- PS-49 **The Impact of PHEV/EV Chargers on Residential Loads - A Case Study** & , (Laith Al-Musawi¹, Rocky Tran¹, Michael Dang² and Nafia Al-Mutawaly^{1,3}
¹McMaster University, Canada, ²Hydro One Networks, Canada, ³Mohawk College, Canada
-
- PS-50 **On-Road Charging of Electric Vehicles** & , Pavol Bauer and Theodora-Elli Stamati
Delft University of Technology, Netherlands
-
- PS-51 **The Impact of PHEV/EV Chargers on Residential Loads - A Case Study** & - * Laith Al-Musawi¹, Rocky Tran¹, Michael Dang² and Nafia Al-Mutawaly^{1,3}
¹McMaster University, Canada, ²Hydro One Networks, Canada, ³Mohawk College, Canada
-
- PS-52 **Comprehensive Modeling of Electric Vehicles to Analyze their Performance Based on Different Propulsion Profiles** \$\$\$ Saeedeh Hamidifar, Mahdi Mousavi and Narayan Kar
University of Windsor, Canada
-
- PS-53 **Cadmium Telluride Solar Cell: From Device Modeling to Electric Vehicle Battery Management** \$ Khalid Nazmus Sakib, Kabir Zahangir and Sheldon Williamson

PS-54 **Reliability Evaluation for Traction Drive System of High-Speed Electrical Multiple Units**

Jianqiang Liu¹, Xiuguo Cui¹, Yong Jiang², and Mahesh Krishnamurthy²

¹Beijing Jiaotong University, China, ²Illinois Institute of Technology, USA

Technical Session 3: Transportation- I

Session Chairs:

Shashi Velnati, Manager – Chrysler Group LLC

Dr. Sanjaka Wirasingha, Chrysler Group LLC

Tuesday, June 18, 2013

2:00 PM – 3:20 PM

Venue: Regency J-K

S3-1 **Benchmarking EV and HEV Power Electronics and Electric Machines**

Tim Burress and Steven Campbell

Oak Ridge National Laboratory, USA

S3-2 **A Novel Fixed Displacement Electric Hydraulic Hybrid (EH2) Drivetrain for City Vehicles**

Yingguang Sun¹, Jose Garcia² and Mahesh Krishnamurthy¹

¹Illinois Institute of Technology, USA, ²Purdue University, USA

S3-3 **PEV Demand Flexibility and its Impact on the Electric Power System**

Mahdi Kefayati and Ross Baldick

University of Texas at Austin, USA

S3-4 **An Average Modeling approach for Mobile Refrigeration Hybrid Power Systems with Improved Battery Simulation**

Yue Cao and Philip Krein

University of Illinois at Urbana-Champaign, USA

Technical Session 4: Energy Storage- I

Session Chairs:

Dr. Tae-Kyung Lee, Research and Advanced Engineering – Ford
Motor Company

Dr. Adam Timmons, Technical Specialist – Chrysler Group LLC

Tuesday, June 18, 2013

2:00 PM – 3:20 PM

Venue: Regency J-K

- S4-1 **Adaptive Online Battery Parameters/ SOC/ Capacity Co-estimation** ' -
Habiballah Rahimi-Eichi and Mo-Yuen Chow
North Carolina State University, USA
-
- S4-2 **Sizing of ICE and Lithium-Ion Battery for Series Hybrid Vehicle over Life Cycle with** ()
Battery Aging
Daniela Chrenko, Zul Hilmi Che Daud, Zainab Asus, El-Hassane Aglzim, Luis Le Moyne, and
Shiyu Gan
University of Bourgundy, France
-
- S4-3 **Adaptive Temperature Monitoring for Battery Thermal Management**) \$
Ienkaran Arasaratnam¹, Jimi Tjong², Ahmed Ryan¹ Mohammed El-Sayed¹, and Saeid
Habibi¹
¹McMaster University, Canada, ²University of Windsor, Canada
-
- S4-4 **Simulation of Internal Short Circuits on Lithium Ion Cells**) *
Alvin Wu¹, Mahmood Tabaddor², Carl Wang² and Judith Jeevarajan³
¹UL LLC, USA, ²UL LLC, Taiwan, ³NASA Johnson Space Center, USA
-

Coffee Break
3:20 PM – 4:20 PM

Technical Session 5: Conductive and Inductive Charging

Session Chairs:

Richard Scholer, Senior Technical Specialist – Chrysler Group LLC
Deepak S. Gautam, Lead Power Electronics Engineer – Delta-Q
Technologies

Tuesday, June 18, 2013

4:20 PM – 5:40 PM

Venue: Regency G-H

- S5-1 **Oak Ridge National Laboratory Wireless Power Transfer Development for** * &
Sustainable Campus Initiative
John Miller, Omer Onar, Steven Campbell, Chester Coomer, Cliff White and Larry Seiber
Oak Ridge National Laboratory, USA
-
- S5-2 **Design of a Zero-Voltage-Switching Large-Air-Gap Wireless Charger with Low** +\$
Electrical Stress for Plug-In Hybrid Electric Vehicles
Chen Duan, Chenguang Jiang, Allan Taylor and Kevin (Hua) Bai
Kettering University, USA
-

S5-3 **Design Considerations for a Level-2 On-Board PEV Charger based on Interleaved Boost PFC and LLC Resonant Converters**
Haoyu Wang, Serkan Dusmez and Alireza Khaligh
University of Maryland at College Park, USA

S5-4 **Genetic Algorithm Based Coil System Optimization for Wireless Power Charging of Electric Vehicles**
Puqi Ning, Omer Onar and John Miller
Oak Ridge National Laboratory, USA

Technical Session 6: Power Electronics- II

Session Chairs:

Dr. Rashmi Prasad, Staff Research Engineer – General Motors R&D Center
Dr. Zhong Nie, Technical Specialist – Chrysler Group LLC

Tuesday, June 18, 2013

4:20 PM – 5:40 PM

Venue: Regency G-H

S6-1 **Voltage Control of a Single Phase, Single-Stage, Isolated AC-DC Converter**
Nathan Weise and Nathan Reimensnyder
University of Maine, USA

S6-2 **Efficiency Comparison of SiC and Si-Based Bidirectional DC-DC Converter**
Di Han, Jukkrit Noppakunkajorn and Bulent Sarlioglu
University of Wisconsin-Madison, USA

S6-3 **A DSP-Based Zero Current and Discontinuous Conduction Mode Detection Method**
Colin Clark¹, Wilson Eberle¹ and Fariborz Musavi²
¹University of British Columbia, Canada, ²Delta-Q Technologies Corp., Canada

S6-4 **Energy Efficiency and Fault Tolerance Comparison of DC/DC Converter Topologies for Fuel Cell Electric Vehicles**
Damien Guilbert, Arnaud Gaillard, Abdoul N'Diaye and Abdesslem Djerdir
University of Technology of Belfort-Montbéliard, France

Wednesday, June 19, 2013

Technical Session 7: Motor Drives

Session Chairs:

Dr. Bin Wu, Manager – Mercedes Benz R&D
Dr. Young-Joo Lee, Technical Specialist – Chrysler Group LLC

Wednesday, June 19, 2013

8:30 AM – 10:10 AM
Venue: Stearns Knight

- S7-1 **Model Reference Adaptive System-Based Speed Estimators for Sensorless Control of Interior Permanent Magnet Synchronous Machines**
Yue Zhao¹, Wei Qiao¹ and Long Wu²
¹University of Nebraska-Lincoln, USA, ²John Deere Electronic Solutions, USA
-
- S7-2 **Loss Modeling and Comparison of VSI and RB-IGBT based CSI in Traction Drive Applications**
Gui-Jia Su and Puqi Ning
Oak Ridge National Laboratory, USA
-
- S7-3 **Electric Motor Control for Hybrid Electric Vehicles based on Different Driving Cycles**
Yi Hou¹, Alexandre Ravey², David Bouquain², Fei Gao², Abdellatif Miraoui² and Weiguo Liu¹
¹Northwestern Polytechnical University, China, ²University of Technology of Belfort-Montbéliard, France
-
- S7-4 **Hybrid Model-Based/Data-Based Inter-Turn Fault Detection Methods for PM Drives with Manufacturing Faults**
Nicolas Leboeuf¹, Thierry Boileau¹, Babak Nahid-Mobarakeh¹, Nouredine Takorabet¹, Farid Meibody-Tabar¹ and Guy Clerc²
¹University of Lorraine, France, ²Lyon 1 University, France
-
- S7-5 **A Novel Design of Electric Tire Concept Incorporating Permanent Magnet Linear Generators Arrangement**
Anas Labak, Gholam-Abbas Nazri and Narayan Kar
University of Windsor, Canada
-

Technical Session 8: Energy Storage- II

Session Chairs:

Anand Sankaran, Executive Technical Leader & Chief Engineer – Ford Motor Company

Dr. Hong H. Yang, Manager – Chrysler Group LLC

Wednesday, June 19, 2013

8:30 AM – 10:10 AM

Venue: Pierce Arrow

- S8-1 **Enhanced Battery/Ultracapacitor Hybrid Energy Storage System and Split Powertrain for Next Generation Performance Vehicles**
Steven Rogers¹, Andrew Saul¹, Serkan Dusmez² and Alireza Khaligh²
¹Genovation Cars Inc., USA, ²University of Maryland at College Park, USA
-

High Temperature - High Energy Density Polymer-Coated Glass Capacitors

S8-2 Mohan Prasad Manoharan¹, Michael Lanagan¹, Shihai Zhang², Douglas Kushner², Chen Zou² and Takashi Murata³
¹Pennsylvania State University, USA, ²Strategic Polymer Sciences, USA, ³Nippon Electric Glass, Japan

S8-3 **Optimal Sizing of the Energy Storage System (ESS) in a Battery-Electric Vehicle** (* Amir Ostadi¹, Mehrdad Kazerani¹ and Shih-Ken Chen²
¹University of Waterloo, Canada, ²General Motors, USA

S8-4 **Characterization of a Commercial Automotive Lithium Ion Battery using Kalman Filter** Moemen Daboussy, Daniela Chrenko, El-Hassane Aglzim, Zul Hilmi Che Daud and Luis Le Moyne
University of Burgundy, France

S8-5 **Online State of Charge and Electrical Impedance Estimation for Multicell Lithium-Ion Batteries** Taesic Kim, Wei Qiao and Liyan Qu
University of Nebraska-Lincoln, USA

Coffee Break

10:10 AM – 10:40 AM

Technical Session 9: Transportation- II

Session Chairs:

Michael Runyon, Manager – Chrysler Group LLC

Sheldon Williamson – Concordia University

Wednesday, June 19, 2013

10:40 AM – 12:00 PM

Venue: Stearns Knight

S9-1 **Component Improvements in the Electrification of Passenger Vehicles Drivetrains** (* Thomas Devloo, Niels Leemput, Juan Van Roy, Frederik Geth, and Johan Driesen
University of Leuven (KU Leuven), Belgium

S9-2 **A New Parallel-Series Configuration for Hybridization of a Line-Haul Truck** (+\$ Fereydoon Diba and Ebrahim Esmailzadeh
University of Ontario Institute of Technology, Canada

S9-3 **Frequency Demodulation-Aided Condition Monitoring for Drivetrain Gearboxes** (+\$ Dingguo Lu and Wei Qiao
University of Nebraska-Lincoln, USA

S9-4 **Plug-In Vehicle to Home (V2H) Duration and Power Output Capability** (, & David Tuttle, Robert Fares, Michael Webber and Ross Baldick