EVER2017 Final Program

Tuesday April 11, 2017

10H00-15H00: Registration

Opening and First Plenary Session
15H00 - 16H00, Room Bosio

Chairs: Raoul Viora (Monaco), Ahmed Masmoudi (Tunisia), and Wlodzimierz Koczara (Poland)

EVER17-PS1 Future Trends of Power Electronic Converters
Elena A. Lomonova
Eindhoven University of Technology, The Netherlands

EV1: Special Lecture Session on New Progress in Air Conditioning and Thermal Management Systems for Electric Vehicles (Part 1)
16H00 - 18H00, Room Bosio

Chairs: Gilbert M. Rios (France) and Stefano Lazzari (Italy)

EVER17-163 Financing Electro-Mobility Thanks to H2020
Gilbert A. Rios
University of Montpellier, France

EVER17-164 Battery Concept to Minimize the Climate-Related Reduction of Electric Vehicles Driving Range
Gero Mimberg and Christoph Massonet
ika RWTH Aachen University, Germany

EVER17-165 Reducing the Energy Consumption for Comfort and Thermal Conditioning in EVs
Alois Steiner and Alexander Mladek
Virtual Vehicle Research Center, Austria

EVER17-166 Real Time Energy Efficiency Optimization in Connected Electrical Vehicles
Juan Rico, Daniel Calvo, Juan Sancho, Miguel Rodriguez, Martin Wagner, Andrea Rossi, and Miguel Mateo
Atos Research and Innovation, Spain
**EVER17-167** New Climate-Control Units for More Energy-Efficient Electric Vehicles: the Innovative Three-Fluids Combined Membrane Contactor

Carlo Isetti and Enrico Nannei  
Innovative Technologies for Environmental Control and Sustainable Development, Italy  
Stefano Lazzari and Saeed Hariri  
University of Genoa, Italy  
Oleg Iliev and Torben Prill  
Fraunhofer-ITWM, Germany

**EVER17-168** How to Design a Proper Membrane for a Membrane Contactor-Based Air Conditioning System

Marta Bojarska, Clemens Alexowsky, and Mathias Ulbricht  
University of Duisbur-Essen, Germany  
Stefano Lazzari and Aldo Bottino  
University of Genoa, Italy  
Claudia Cattaneo and Gustavo Capanelli  
Innovative Technologies for Environmental Control and Sustainable Development, Italy  
Soccorso Gaeta  
GVS Filter Technology, Italy

**18H30: Welcome Reception Hosted by the Government of Monaco**
Wednesday April 12, 2017

**Second Plenary Session**

9H00 - 10H00, Room Bosio

Chairs: Mariacristina Roscia (Italy), Michael Schier (Germany), and Rosario Miceli (Italy)

**EVER17-PS2 Battery Management in Stationary and Mobile Applications**

David A. Stone  
University of Sheffield, UK

10H00 - 10H30: Coffee Break

**EV2: Special Lecture Session on New Progress in Air Conditioning and Thermal Management Systems for Electric Vehicles (Part 2)**

10H30 - 12H50, Room Bosio

Chairs: Gilbert M. Rios (France) and Stefano Lazzari (Italy)

**EVER17-169 Low Energy Heating System Based on Joule Effect: JOSPEL Project**

Vanessa Gutiérrez Aragonés and Begoña Galindo Galiana  
AIMPLAS Plastic Technology Centre, Spain  
Carlos Bandrés Diéguez and Miguel de Dios Álvarez  
CTAG Automotive Technology Centre of Galicia, Spain  
Damián Calabuig and Alejandro Cabanes  
Durplastic, Spain

**EVER17-170 New Climate-Control Units for More Energy-Efficient Electric Vehicles: System Architecture**

Carlo Isetti and Enrico Nannei  
Innovative Technologies for Environmental Control and Sustainable Development, Italy  
Stefano Lazzari  
University of Genoa, Italy  
Bernardo Cerrai and Sergio Nari  
Marine Refrigeration and Air Conditioning Systems, Italy

**EVER17-171 Insulating Sandwich Housing Structures for the Thermal Management of Battery Packs**

Felix Weidmann  
Fraunhofer Institute for Structural Durability and System Reliability, Germany

**EVER17-172 Efficient Cabin and Powertrain Preconditioning for EVs with a Water-to-Water Heat Pump System**

Andres Caldevilla, Markus Özbek, Werner Hünemörder, Tibor Györög, and Edouard Hougard  
DENSO Automotive Deutschland GmbH, Germany  
Marius Pintea  
PiNTeam GmbH, Germany
**EVER17-173 Isothermal Calorimeter Heat Measurements of a 20Ah Lithium Iron Phosphate Battery Cell**
Lluis Millet, Maximilian Bruch, Peter Raab, Stephan Lux, Dr. Matthias Vetter
Fraunhofer-Institut für Solare Energiesysteme ISE, Germany

**EVER17-174 From Cell to System: Battery System Design**
Maximilian Bruch
Fraunhofer-Institut für Solare Energiesysteme ISE, Germany

**EVER17-175 A Pilot System for the Characterization of Hydrophobic Membrane Contactor Modules to Be Used in Air Handling Processes**
Antonio Comite and Aldo Bottino
University of Genoa, Italy
Claudia Cattaneo, Federica Boero, Gustavo Capannelli, Osvaldo Conio, Carlo Isetti, and Enrico Nannei
Innovative Technologies for Environmental Control and Sustainable Development, Italy

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**EV3: Lecture Session on the Design, Optimization and Modeling of Electric Machines Dedicated to Sustainable Applications**

10H30 - 12H30, Room Poulenc 1

**Chairs:** Elena A. Lomonova (The Netherlands) and Simon Olaf (Germany)

**EVER17-050 Sensitivity Analysis for Induction Machine Manufacturing Tolerances: Modeling of Electrical Parameters Deviation**
Hussein Khreis, Andrea Deflorio, Miguel Ruiz De Larramendi, and Wei-Lung Lee
Robert Bosch GmbH, Germany
Benedikt Schmuelling
University of Wuppertal, Germany

**EVER17-084 The Brushless Doubly Fed Induction Machine as Generator for Small Hydro Power - Machine Design and Experimental Verification**
Philipp Löhdefink and Armin Dietz
Technische Hochschule, Germany
Andreas Möckel
Technische Universität Ilmenau, Germany

**EVER17-087 Methodical Approach for Designing Electric Propulsion Systems Containing Two Motors**
Michael Schier, Markus Hubner, and Nina Kevlishvili
German Aerospace Center, Germany
Armin Dietz and Sebastian Hörlin
University of applied sciences Nuremberg, Germany

**EVER17-088 Gear Ratio Optimization of a Full Magnetic Indirect Drive Chain for Wind Turbine Applications**
Melaine Desvaux, Bernard Multon, and Hamid Ben Ahmed
SATIE, France
Stéphane Sire
University Bretagne Occidentale, France
Aurélie Fasquelle and Daniel Laloy
Jeumont Electric, France
EVER17-110 Determination of Differential Leakage Factors in Electrical Machines with Non-Symmetrical Full and Dead-coil Windings
Antonino Oscar Di Tommaso, Fabio Genduso, Rosario Miceli, and Giuseppe Ricco Galluzzo
University of Palermo, Italy

EVER17-128 A Numerical Design Platform for Induction Motor Efficiency Enhancement under Cost and Performance Optimization Constraints
M. Mezzarobba and A. Tessarolo
University of Trieste, Italy
F. Luise
Nidec ASI, Italy
M. De Martin
SCAME, Italy

RE1: Special Lecture Session on HVDC Converters and Systems: Modeling, Control, and Stability Analysis
10H30 - 12H30, Room Scotto

Chairs: Wlodzimierz Koczara (Poland) and Gilbert Bergna-Diaz (Norway)

EVER17-117 Port-Hamiltonian Modelling of Modular Multilevel Converters with Fixed Equilibrium Point
Gilbert Bergna-Diaz, Santiago Sanchez, and Elisabetta Tedeschi
Norwegian University of Science and Technology, Norway

EVER17-119 Tuning of Control Loops for Grid-Connected Modular Multilevel Converters under a Simplified Port Representation for Large System Studies
Santiago Sanchez, Gilbert Bergna, and Elisabetta Tedeschi
Norwegian University of Science and Technology, Norway

EVER17-133 Modified Vienna (Warsaw) Rectifier under Fault Condition
Tomasz Balkowiec and Wlodzimierz Koczara
Warsaw University of Technology, Poland

EVER17-152 Avoiding AC/DC Grid Interaction in MMC Based MTDC Systems
Atsede Gualu Endegnanew, Gilbert Bergna-Diaz, and Kjetil Uhlen
Norwegian University of Science and Technology, Norway

EVER17-153 Integral Control of a Multi-Terminal HVDC-VSC Transmission System
Marta Haro-Larrodé, Íñigo Vidaurrazaga-Temez, Salvador Ceballos-Recio, and Maider Santos-Mugica
Tecnalia Research and Innovation, Spain
Pablo Eguía-López
The University of the Basque Country, Spain

EVER17-154 Design Considerations of Medium-Frequency Power Transformers in HVDC Applications
M. A. Bahmani
Chalmers University of Technology, Sweden

12H30 - 14H00: Lunch
**EVER17-016 Charging Strategies of Electric Vehicles**
T. Tran-Quoc, H. Clémot, and V.L. Nguyen
National Institute of Solar Energy, France

**EVER17-017 Placement of EV Charging Stations Integrated with PV Generation and Battery Storage**
Bei Zhang, Qin Yan, and Mladen Kezunovic
Texas A&M University, USA

**EVER17-022 Optimization of Energy Consumption by Using an Intelligent Assistance System for an Electric Vehicle**
Matthias Fritsch and Xiaobo Liu-Henke
Ostfalia University of Applied Sciences, Germany

**EVER17-028 EV Charging Scheduling for Cost and Greenhouse Gases Emissions Minimization**
Rentao Wu, G. Tsagarakis, A. J. Collin, and A. E. Kiprakis
University of Edinburgh, UK

**EVER17-046 A Comparative Study and Analysis of Different Models for Photovoltaic (PV) Array Using in Solar Car**
Nafaa Jeddi and Lilia El Amraoui
University of Carthage, Tunisia
Fernando Tadeo Rico
University of Valladolid, Spain

**EVER17-100 Electric Vehicles Energy Management Using Lithium-Batteries and Ultracapacitors**
Ismail Oukkacha, Mamadou Bailo Camara, and Brayima Dakyo
University of Le Havre, France

**REV1: Lecture Session on Control Strategies Dedicated to Drives and Generators Integrated in Sustainable Applications**

14H00 - 16H00, Room Poulenc 1

**EVER17-030 Direct Torque Control for Autonomous Doubly Fed Induction Machine based DC Generator**
Pawel Maciejewski and Grzegorz Iwanski
Warsaw University of Technology, Poland

**EVER17-042 Fuzzy Logic Control of Electric Vehicles: Design and Analysis Concepts**
Jemma J. Makrygiorgou and Antonio T. Alexandridis
University of Patras, Greece
**EVER17-092 Sensorless Control of a PMSM for Dynamic Control Performance Evaluation**  
Piyush Kumar  
Free University of Bozen-Bolzano, Italy  
Luigi Alberti  
University of Padova, Italy

**EVER17-114 Flux Observer Model for Sensorless Control of PM BLDC Motor with a Damper Cage**  
Peng Li  
China Electronic Technology Group, China  
Wei Sun and Jianxin Shen  
Zhejiang University, China

**EVER17-127 PLL Type Estimator Applied in PMSM Sensorless Control for Speed and Position**  
Vasilios C. Ilioudis  
Alexander Technological Educational Institution of Thessaloniki, Greece

**EVER17-162 Comparative Investigation of Bus-Clamping PTC Strategies for IM Drives**  
Wiem Zouari and Bassem El Badsi  
University of Sfax, Tunisia

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**EV5: Lecture Session on Electric Vehicle Fleet Development in Europe**  
**14H20 - 16H00, Room Scotto**

*Chairs: Stefan Schiffer (Germany) and Quoc Tuan Tran (France)*

**EVER17-025 An Evaluation of the Car-free City Potential for the City of Munich Regarding Mobility Data**  
Johannes Betz, Sophia Prottung, and Markus Lienkamp  
Technical University of Munich, Germany

**EVER17-027 Ecological Light Duty Vehicles – An Experience Based Product Development Process Based on Two Different Vehicle Concepts in a Resource Limited Environment**  
Sophie Steinmaßl, Martin Šoltés, Markus Lienkamp, and Veit Senner  
Technical University of Munich, Germany

**EVER17-074 Advancing Energy Efficient Early-Stage Vehicle Design through Inclusion of End-of-Life Phase in the Life Cycle Energy Optimisation Methodology**  
Merle-Hendrikje Jank, Ciaran J. O’Reilly, and Peter Goransson  
KTH Royal Institute of Technology, Sweden  
Rupert J. Baumgartner and Josef-Peter Schoggl  
University of Graz, Austria

**EVER17-077 The Diffusion of Electric Vehicles in Italy as a Means to Tackle Main Environmental Issues**  
Simone Franzò, Federico Frattini, Vito Manfredi Latilla, Federica Foiadelli, and Michela Longo  
Politecnico di Milano, Italy

**EVER17-079 The Strategies for the Diffusion of EVs: Focus on Norway and Italy**  
Morris Brenna, Michela Longo, and Dario Zainelli  
Politecnico di Milano, Italy  
Fabio Viola, Rosario Miceli, and Pietro Romano  
University of Palermo, Italy
16H00 - 16H30: Coffee Break

RE2: Special Lecture Session on Offshore and Marine Renewable Energy: Conversion and Transmission
16H30 - 18H30, Room Bosio

Chairs: Sara Armstrong (Ireland) and David A. Stone (UK)

Romano Capocci, Gerard Dooly, and Daniel Toal
University of Limerick, Ireland

EVER17-156 A Wave-to-Wire Chain Modeling and Command for a Direct Drive Wave Energy Converter
Hélène Clémot and Florian Dupriez-Robin
CEA-Tech Pays de la Loire, France
Aurélien Babarit
Ecole Centrale de Nantes, France
Tuan Quoc Tran
National Institute of Solar Energy, France

EVER17-157 An Assessment of Structure-Based Sensors in the Condition Monitoring of Tidal Stream Turbines
Roger I. Grosvenor, Paul W. Prickett, and Jianhao He
Cardiff University, UK

EVER17-158 Applying Hardware-in-the-Loop Capabilities to an Ocean Renewable Energy Device Emulator
James F. Kelly and Ross Christie
University College Cork, Ireland

EVER17-159 Energy Storage Solutions for Offshore Wave and Tidal Energy Prototypes
Dónal B. Murray and Paul Gallagher
University College Cork, Ireland
Ben Duffy
Secure Power Systems Limited, Ireland
Vincent McCormack
GKinetic Energy Limited, Ireland

EVER17-160 Experimental Investigation on Mooring Loads and Motions of a TLP Floating Turbine
Thomas P. Mazarakos
National Technical University of Athens, Greece
Spyridon A. Mavrakos
Hellenic Centre for Marine Research, Greece
**EV6: Lecture Session on the Design and Analysis of Different Topologies of Linear Permanent Magnet Synchronous Machines**

16H30 - 18H10, Room Poulenc 1

Chairs: Michel Hecquet (France) and Lilia El Amraoui (Tunisia)

**EVER17-032** Thrust Ripple and Inductances Characteristics of a Hybrid-Excited Flux-Switching Linear Machine
Zhiqiang Zeng, Qinfen Lu, Xiaoyan Huang, and Youtong Fang
Zhejiang University, China

**EVER17-161** Investigation of the Eccentricity Effect on Quasi-Halbach Magnetized PM T-LSM Features
Mohamed Wael Zouaghi, Imen Abdennadher, and Ahmed Masmoudi
University of Sfax, Tunisia

**EVER17-150** Investigation of the Effects of the Mover Magnetic Circuit Geometry of IPM T-LSMs on their No-Load Features
Amal Soussi, Imen Abdennadher, and Ahmed Masmoudi
University of Sfax, Tunisia

**EVER17-176** 3D FEA-Based Design of an Iron Assisted Quasi-Halbach Segmented PM T-LSM
Mohamed Wael Zouaghi, Imen Abdennadher, and Ahmed Masmoudi
University of Sfax, Tunisia

**EVER17-178** Semi-Analytical Analysis of Rotating and Linear Flux-Switching PM Machines Including Skewing
Eindhoven University of Technology, The Netherlands

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**EV7: Lecture Session on Supercapacitors and Batteries Modeling and Characterization with Emphasis on the Aging Effect**

16H30 - 18H30, Room Scotto

Chairs: Dario Zaninelli (Italy) and Markus Hubner (Germany)

**EVER17-001** Multi-physical Characterization of Supercapacitors
Kosseila Bellache; Mamadou Bailo Camara, and Brayima Dakyo
University of Le Havre, France

**EVER17-012** A Techno-Economic Analysis of End of Life Value Chains for Lithium-Ion Batteries from Electric Vehicles
Stephan Rohr, Stephan Wagner, Michael Baumann, Stefan Müller, and Markus Lienkamp
Technical University of Munich, Germany
EVER17-015 Verification Oriented Development of a Scalable Battery Management System for Lithium-Ion Batteries
Xiaobo Liu-Henke, Sören Scherler, Sven Jacobitz
Ostfalia University of Applied Sciences, Germany

EVER17-018 Effect of a Flexible Battery Module Bracing on Cell Aging
Fabian Ebert and Markus Lienkamp
Technical University of Munich, Germany
Gerhard Sextl
Fraunhofer Institute for Silicate, Germany

EVER17-021 Reduction of Aging-Effects by Supporting a Conventional Battery Pack with Ultracapacitors
Christian Angerer, Sebastian Krapf, Nikolaos Wassiliadis, and Markus Lienkamp
Technical University of Munich, Germany

EVER17-045 Impact of Battery Ageing on E-Mobility Energy Efficiency
Eduardo Redondo-Iglesias, Pascal Venet, and Serge Pelissier
University of Lyon, France

21H30: Conference Official Dinner (Novotel Monte Carlo Hotel)
Thursday April 13, 2017

Third Plenary Session
9H00 - 10H00, Room Bosio

Chairs: Lilia El Amraoui (Tunisia), Elena A. Lomonova (The Netherlands), and Fabrizio Marignetti (Italy)

EVER17-PS3 Research on Linear Machine and its Applications
Professor Qinfen Lu
Zhejiang University, China

10H00 - 10H30: Coffee Break

EV8: Lecture Session on the Design and Analysis of Different Topologies of Rotating Permanent Magnet Synchronous Machines
10H30 - 12H30, Room Bosio

Chairs: Alberto Tessarolo (Italy) and Elena A. Lomonova (The Netherlands)

EVER17-102 Comparison between a Double Excitation Synchronous Machine and a Permanent Magnet Synchronous Machine According to Various Constant Power Speed Ranges
K. Hoang, M. Gabsi, and L. Vido
SATIE, France
F. Gillon
Ecole Centrale de Lille, France

EVER17-109 A New Hybrid Method for the Fast Computation of Airgap Flux and Magnetic Forces in IPMSM
Emile Devillers and Michel Hecquet
University of Lille, France
Jean Le Besnerais
Eomys Engineering, France

EVER17-113 Finite-Element Performance Comparison of IPMSMs with Unsymmetrical Double-layer Windings
M. Caruso, A. O. Di Tommaso, R. Miceli, and F. Viola
University of Palermo, Italy
L. Ferraris
Politecnico di Torino, Italy

EVER17-117 A Simple Method for Optimal Control of PMSM with Loss Minimization Including Copper Loss and Iron Loss
Lionel Vido and Sandrine Le Ballois
University of Cergy-Pontoise, Italy
**EVER17-140 Optimal Design of a Novel Axial Flux Magnetically Geared PM Machine**
University of Sheffield, UK

**EVER17-141 A Novel Axial Flux Magnetically Geared Machine for Power Split Application**
Z.Q. Zhu, M. F.H. Khatab, H. Y. Li, and Y. Liu
University of Sheffield, UK

**RE3: Lecture Session on Variable Speed Conversion of Wind and Hydro Energies and their Interfacing to the Grid**
10H30 - 12H30, Room Poulenc 1

**Chairs:** Mariacristina Roscia (Italy) and Włodzimierz Koczara (Poland)

**EVER17-076 Enhancement of Low-Voltage Ride through Capability of an Offshore Wind Turbine**
Merzak Aimene, Alireza Payman, and Brayima Dakyo
University of Le Havre, France

**EVER17-112 Design Issues for Wind Farms Grid Tied Inverter**
M. Caruso, A.O. Di Tommaso, F. Genduso, and R. Miceli
University of Palermo, Italy
M. Roscia
University of Bergamo, Italy

**EVER17-123 Canal Lock Variable Speed Hydropower Turbine Energy Conversion System**
Jian Zhang, Abdelmounaim Tounzi, Phillipe Delarue, and Francis Piriou
University of Lille, France
Vlasios Leontidis, Antoine Dazin, and Guy Caignaert
ENSAM, France
Antoine Libaux
EDF Hydro-Engineering Centre, France

**EVER17-124 Voltage Sag and Swell Mitigation Using D-STATCOM in Renewable Energy Based Distributed Generation Systems**
Faris Hamoud, Mamadou Lamine Doumbia, and Ahmed Cheriti
Université du Québec à Trois-Rivières, Canada

**EVER17-134 Performance Comparison of Variable Speed PMSG-Based Wind Energy Conversion System Control Algorithms**
Boubacar Housseini, Aime Francis Okou, and Rachid Beguenane
Royal Military College of Canada, Canada

**EVER17-135 Island Operation of the Adjustable Speed Generation System**
Włodzimierz Koczara, Artur Krasnodebski, and Tomasz Balkowiec
Warsaw University of Technology, Poland
**EVER17-143** Application of V2G Communication for Wireless Interoperable Power Transfer
Olaf Simon
SEW-EURODRIVE GmbH & Co KG, Germany
Dimitri Shkadarevich
CarMedialab GmbH, Germany

**EVER17-146** Design and Modeling of V2G Inductive Charging System for Light-Duty Electric Vehicles
Yassine Benomar, Mohamed El Baghdadi, Omar Hegazy, Yang Yang, Maarten Messagie, and Joeri Van Mierlo
Vrije Universiteit Brussel, Belgium

**EVER17-093** Nonlinear Adaptive Control of On-grid/Off-grid Wind Energy Battery-Storage System
Boubacar Housseini, Aime Francis Okou, and Rachid Beguenane
Royal Military College of Canada, Canada

**EVER17-137** Stability of Battery Energy Storage System Operating with Diesel Generator in a Stand-Alone Microgrid
Jonmin Jo and Hanju Cha
Chungnam National University, Korea

**EVER17-145** Total Cost of Ownership of Electric Vehicles Incorporating Vehicle-to-Grid Technology
Dries Schreurs, Quentin De Clerck, Maarten Messagie, Lieselot Vanhaverbeke, and Joeri Van Mierlo
Vrije Universiteit Brussel, Belgium

**EVER17-144** Modeling and Control of Interleaved DC/DC Boost Converters via Energy Factor Approach
Egi Nazeraj, Omar Hegazy, and Joeri Van Mierlo
Vrije Universiteit Brussel, Belgium

12H30 - 14H00: Lunch

**REV2: Poster Session on Miscellaneous**
14H00 - 15H30, Session Rooms Hall

Chairs: David A. Stone (UK) and Antonino Oscar Di Tommaso (Italy)

**EVER17-010** Efficiency Determination of Active Battery Switching Technology on Roller Dynamometer
Philip Wacker, Joern Adermann, Benedikt Danquah, and Markus Lienkamp
Technical University of Munich, Germany
**EVER17-049** Electric Power Generation with Piezoelectricity for Cargo Ships
Fernando Cunha Pimentel Ulhôa, Pedro Américo Almeida Magalhães Júnior, Rafael Augusto de Souza Floriano, and Vítor Nogueira Coutinho
Pontifícia Universidade Católica de Minas Gerais, Brazil

**EVER17-051** Sensor Minimal Cell Monitoring with Integrated Direct active Cell Balancing
Philip Dost and Constantinos Sourkounis
Ruhr-University Bochum, Germany

**EVER17-090** An Intelligent Control Structure for Highly Dynamic Driving of a Spherical Electrical Drive
Xiaobo Liu-Henke, Marian Göllner, and Haoqi Tao
Ostfalia University of Applied Sciences, Germany

**EVER17-105** Smartphone Application to Evaluate the Individual Possibilities for the Application of Electric Vehicles
Philip Dost, Christoph Degner, and Constantinos Sourkounis
Ruhr-University Bochum, Germany

**EVER17-118** Fault Isolation in DC networks Supplying Electric Vehicles
Morris Brenna, Dario Zaninelli, and Enrico Tironi
Politecnico di Milano, Italy
George C. Lazaroiu
University Politehnica of Bucharest, Romania
Mariacristina Roscia
Università di Bergamo, Italy

**EVER17-120** A Review of Thermal Management and Safety for Lithium Ion Battery Cells
Seyed Saeed Madani, Maciej Jozef Swierczynski, and Søren Knudsen Kær
Aalborg University, Denmark

**EVER17-121** The Discharge Behavior of Lithium-Ion Batteries using the Dual-Potential Multi-Scale Multi-Dimensional (MSMD) Battery Model
Seyed Saeed Madani, Maciej Jozef Swierczynski, and Søren Knudsen Kær
Aalborg University, Denmark

**EVER17-131** Power Factor Improvement using Adaptive Fuzzy Logic Control Based D-STATCOM
Faris Hamoud, Mamadou Lamine Doumbia, Ahmed Chériti, Hakim Teiar
Université du Québec à Trois-Rivières, Canada

**EVER17-151** Simulation of a Single-Phase Five-Level Cascaded H-Bridge Inverter with Multicarrier SPWM B-Spline Based Modulation Technique
G. Schettino, V. Castiglia, F.Genduso, P. Livreri, R. Miceli, P. Romano, and F. Viola
University of Palermo, Italy

**EVER17-180** New Approach for Harmonic Mitigation in Single-Phase Five-Level CHBMI with Fundamental Frequency Switching
G. Schettino, V. Castiglia, P. Livreri, R. Miceli, and F. Viola
University of Palermo, Italy
R. Rizzo
University of Naples Federico II, Italy

*15H30 - 16H00: Coffee Break*
**EV10: Lecture Session on Electric and Hybrid Propulsion Systems**

*16H00 - 18H00, Room Bosio*

Chairs: Frank Rinderknecht (Germany) and Rosario Miceli (Italy)

**EVER17-005 Integrated Model for Battery Electric Vehicles with Energy Harvesting Active Suspension System**

T.H. Pham, J. Jacob, and S. Wilkins
TNO Powertrains, The Netherlands
C. Lauwerys and M. Dhaens
Tenneco automotive Europe, Belgium

**EVER17-019 Multi-Objective Optimization of a Long-Haul Truck Hybrid Operational Strategy And a Predictive Powertrain Control System**

M. Fries
Institute of Automotive Technology, Germany
M. Kruttschnitt and M. Lienkamp
Technical University of Munich, Germany

**EVER17-089 Comparison of Electric Vehicles with Single Drive and Four Wheel Drive System Concerning Regenerative Braking**

Philipp Spichartz, Tim Bokker, and Constantinos Sourkounis
Ruhr-University Bochum, Germany

**EVER17-104 Design and Experiments of a Test Equipment for Hybrid and Electric Vehicle Drivetrains**

Fabrizio Marignetti, Damiano D’Aguanno, and Giuseppe Volpe
University of Cassino and Southern Lazio, Italy

**EVER17-125 Improving Longitudinal Dynamics of Conventional Vehicles in Comparison to Electrified Vehicles to Meet Customer Behavior**

Stephan Schiffer, Andreas Kain, and Philipp Wilde
BMW Group, Germany
Maximiliam Helbing and Bernard Baeker
Technische Universität Dresden, Germany

**EVER17-132 Influence of the Final Drive Ratio on the Consumption of Passenger Cars under Real Driving Conditions**

Stephan Schiffer, Andreas Kain, and Philipp Wilde
BMW Group, Germany
Jad Haber, Maximiliam Helbing and Bernard Baeker
Technische Universität Dresden, Germany
**EV11: Lecture Session on the Design, Analysis, Manufacturing, and Testing of AC Machines**

16H00 - 18H00, Room Poulinc 1

Chairs: Qinfen Lu (China) and Alberto Tessarolo (Italy)

**EVER17-111** Fast Procedure for the Calculation of Maximum Slot Filling Factors in Electrical Machines
Antonino Oscar Di Tommaso, Fabio Genduso, Rosario Miceli, and Claudio Nevoloso
University of Palermo, Italy

**EVER17-117** Design, Manufacturing and Testing of a Cogging-Torque-Free Permanent-Magnet Wind Generator
Fabio Luise
NIDEC-ASI, Italy
Alberto Tessarolo
University of Trieste, Italy

**EVER17-142** Design Optimization of a 12/8 Switched Reluctance Motor for Electric and Hybrid Vehicles
Olivier Argiolas, Egi Nazeraj, Omar Hegazy, and Joeri Van Mierlo
Vrije Universiteit Brussel, Belgium
Johan De Backer and Ali Mohammadi
Toyota Motor Europe, Belgium

**EVER17-115** Analysis Method of Dynamic Torque-frequency Characteristic of Hybrid Stepping Motors
Peng Li and Hua Lu
Research Institute of China, China
Jianxin Shen
Zhejiang University, China

**EVER17-177** Field Weakening Capability of 12-Stator-Slot/10-Rotor-Pole Variable Flux Reluctance Machines
Jing Bao, Bart L.J. Gysen, Konstantin Boynov, Samuil Alexandrov, and Elena A. Lomonova
Eindhoven University of Technology, The Netherlands

**EVER17-179** Separation of Volume and Surface Forces and Torques in a DC Excited Flux Switching Machine
M. Curti, J.J.H. Paulides, and E.A. Lomonova
Eindhoven University of Technology, The Netherlands

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**EV12: Lecture Session on Innovative Automotive Technologies**

16H00 - 18H00, Room Scotto

Chairs: Fabio Viola (Italy) and Igor Bolvashenkov (Germany)

**EVER17-007** Reliability Assessment of a Fault Tolerant Propulsion System for an Electrical Helicopter
Igor Bolvashenkov, Jörg Kammermann, and Hans-Georg Herzog
Technical University of Munich, Germany
**EVER17-008** The Choice of an Optimal Structure and Parameters of Energy Storage for an Electrical Helicopter Traction Drive
Igor Bolvashenkov, Jörg Kammermann, and Hans-Georg Herzog
Technical University of Munich, Germany
Ilia Frenkel
Shamoon College of Engineering, Israel

**EVER17-041** Study of a Hardware-In-the-Loop Bench for Hybrid Electric Working Vehicles Simulation
Francesco Mocera and Aurelio Somà
Politecnico di Torino, Italy

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Débora Maria de Oliveira Borges, Rafael Augusto de Souza Floriano, Rodrigo de Souza Reis Pimenta, Rogério Jorge Amorim, and Vítor Nogueira Coutinho
Pontifícia Universidade Católica de Minas Gerais, Brazil

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Philipp Spichartz and Constantinos Sourkounis
Ruhr-University Bochum, Germany

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