# EVER'11 Final Program

## *Thursday, March 31, 2011*

### *Welcome Speech and Plenary Session 1*
### *09H00 - 10H00, Amphitheater Camille Blanc*

**Chairs: Bernard Fautrier (Monaco) and Ahmed Masmoudi (Tunisia)**

**EVER11-PS1** *Design Considerations of Permanent Magnet Machines for Automotive Applications*

Massimo Barcaro and Nicola Bianchi
University of Padova, Italy

## *10H00 - 10H30: Coffee Break*

### *EV1: Lecture Session on Machine Design 1*
### *10H30 – 12H30, Amphitheater Camille Blanc*

**Chairs: Grzegorz Ombach (Germany) and Rosario Miceli (Italy)**

**EVER11-38** *Influence of Rotor Structure and Number of Phases on Torque and Flux Weakening Characteristics of V-shape Interior PM Electrical Machine*

Bassel Aslan, Julien Korecki, Thimoté Vigier, and Eric Semail
École Nationale Supérieure d'Arts et Métiers Lille, France

**EVER11-52** *Analysis of a Fractional Slot Permanent Magnet Machine for a Series Hybrid Truck*

M.F.J. Kremers, J.J.H. Paulides, T.E. Motoasca, and E.A. Lomonova
Eindhoven University of Technology, The Netherlands

**EVER11-54** *Design of a High Integrated Electric Machine for Aircraft Autonomous Taxiing*

Michael Schier, Frank Rinderknecht, Andreas Brinner, and Heribert Hellstern
German Aerospace Center, Germany

**EVER11-77** *Contribution to the Sizing and Performance Analysis of an Interior Permanent Magnet (IPM) Motor for Propulsion Applications*

Ikhlas Bouzidi and Ahmed Masmoudi
University of Sfax, Tunisia

Nicola Bianchi
University of Padova, Italy

**EVER11-80** *FEA Based Investigation of the Magnetic Forces Developed by Fractional Slot PM Synchronous Machines*

Imen Abdennadher and Ahmed Masmoudi
University of Sfax, Tunisia

## *EV2: Lecture Session on Fuel Cells*
## *10H30 – 12H00, Room Auric 4*

**Chairs: Juan Dixon (Chile) and Patrick Favier (France)**

**EVER11-08** *Exergy Analysis of Polymer Electrolyte Membrane Fuel Cells*

Brahim Laoun and Maiouf Belhamel
Research Centre of Renewable Energies Development, Algeria

Wahib Naceur
University of Sâad Dahleb of Blida, Algeria

**EVER11-12** *Theoretical Evaluation of the Efficiency of Centrifugal Electrolysis and Opportunity of its Use on Board the Vehicle*

Igor Bolvashenkov, Christiane Bertram, Dominik Buecherl, and Hans-Georg Herzog
Technische Universitaet Muenchen, Germany

**EVER11-30** *Control of Size and Distribution of Pt Nano-particles for Fuel Cell Application*

Joung Woon Kim, Seung Jun Hwang, Sung Jong Yoo, Tae-Hoon Lim, Suk Woo Nam, and Soo-Kil Kim
Korea Institute of Science and Technology, Korea

Oh Joong Kwon
University of Incheon, Korea

Jeong Sook Ha
Korea University, Korea

**EVER11-31** *$TiO_2$ Supported Pt Catalysts for Fuel Cell Application*

Sung Jong Yoo, Soo-Kil Kim, Seung Jun Hwang, Joung Woon Kim, Suk Woo Nam, and Tae-Hoon Lim
Korea Institute of Science and Technology, Korea

Yung-Eun Sung
Seoul National University, Korea

## *RE1: Lecture Session on PV Systems Technology and Applications 10H30 – 12H00, Room Ravel*

**Chairs: Igor A. Levitsky (USA) and Kodjo Agbossou (Canada)**

**EVER11-14** *Experimental Study of Electricity Generation by PV/diesel Hybrid Systems without Storage for off Grid Areas in Sahelian Countries*

Daniel Yamegueu and Yao Azoumah
Institut International d'Ingénierie de l'Eau et de l'Environnement, Burkina Faso

Xavier Py
Université de Perpignan, France

**EVER11-26** *Energy and Economic Optimization of Bioclimatic Building in Tlemcen Site*

M.A. Boukli Hacene, N.E. Chabane Sari, and S. Amara
University Abou Bekr Belkaid of Tlemcen, Algeria

**EVER11-28** *Analysis of PV Panels Faults by Thermography*

Florin Ancuta and Costin Cepisca
University Politehnica of Bucharest, Romania

**EVER11-51** *Hybrid Photovoltaics from Si-Carbon Nanotubes*

Pang-Leen Ong
Emitech, Inc. Fall River, USA

William B. Euler
University of Rhode Island, USA

Igor A. Levitsky
Emitech, Inc. Fall River and University of Rhode Island, USA

## *12H00 – 13H30: Lunch*

## *EV3: Lecture Session on Traction System Technology*
## *13H30 – 15H00, Room Auric 4*

**Chairs: Pascal Xavier (France) and Jacek Junak (Germany)**

**EVER11-11** *Impact of Electrical Machine and Transmission Control on HEV Drive Train Behavior and its Optimal Configuration*

Christiane Bertram, Dominik Buecherl, Igor Bolvashenkov, and Hans-Georg Herzog
Technical University of Munich, Germany

**EVER11-33** *A Study on the Design Criteria and Performance of the High Speed Traction Motors for the Deep-Underground GTX*

Chan-Bae Park, Hyung-Woo Lee, Byung-Song Lee, and Ju Lee
Hanyang University, Korea

**EVER11-56** *Electric Propulsion Concept for a Energy-Efficient High Speed Train*

Tobias Weiler
German Aerospace Center, Germany

**EVER11-61** *HAMSTER ELECTRICWAY 4WD- Plug-in Hybrid Vehicle*

Danut Gabriel Marinescu, Ion Tabacu, Florin Serban, Stefan Tabacu, Viorel Nicolae, and Mircea Draghici
University of Pitesti, Romania

**EVER11-62** *How does Lightweight Design Affect Traction Energy Consumption of Railway Vehicles?*

Holger Dittus
German Aerospace Center, Germany

## *EV4: Lecture Session on Machine Design 2*
## *13H30 – 15H00, Room Raval*

**Chairs: Nicola Bianchi (Italy) and Jian-Xin Shen (China)**

**EVER11-58** *Comparison of Flux-Switching Machines and Permanent Magnet Synchronous Machines in an In-Wheel Traction Application*

Y. Tang, T.E. Motoasca, J.J.H. Paulides, and E.A. Lomonova
Eindhoven University of Technology, the Netherlands

**EVER11-76** *Calculation and Efficiency of a Linear Generator for a Hybrid Vehicle Concept*

Frank Rinderknecht
German Aerospace Center, Germany

Hans-Georg Herzog
Technische Universität München, Germany

**EVER11-122** *2D-FEA Assessment of Eddy-Current Losses in Fractional Slot PM Machines*

Asma Masmoudi and Ahmed Masmoudi
University of Sfax, Tunisia

**EVER11-124** *3D-FEA Based Investigation of a Novel Hybrid Excited Brushless Claw Pole Machine*

Rabeb Rebhi, Amina Ibala, and Ahmed Masmoudi
University of Sfax, Tunisia

## *Official Plenary Session in Presence of H.S.H. Prince Albert II*
## *15H00 - 16H00, Amphitheater Camille Blanc*

## *16H00 –16H30: Exhibition Visit in Presence of H.S.H. Prince Albert II*

## *EV5: Lecture Session on Machine Design 3*
## *16H30 – 18H00, Amphitheatre Camille Blanc*

**Chairs: Zi-Qiang Zhu (United Kingdom) and Emilia Motoasca (The Netherlands)**

**EVER11-34** *A Compact In-wheel Propulsion System for Personal Electric Vehicles*
Charles Guan and Shane Colton
Department of Mechanical Engineering, Massachusetts Institute of Technology, USA
Jed Storey
Department of Aeronautics and Astronautics, Massachusetts Institute of Technology, USA

**EVER11-60** *An Improved Design of the Low-Speed Double Fed Induction Generator*
G. Dilevs, N. Levin, and V. Pugachev
Institute of Physical Energetics, Latvia

**EVER11-65** *Parameter Identification and 2D FE Modeling of Existing Switched Reluctance Motors*
Adrian-Cornel Pop, Vlad Petrus, and Claudia Steluta Martis
Technical University of Cluj-Napoca, Romania
Johan Gyselinck
Université Libre de Bruxelles, Belgium

**EVER11-126** *On the Cogging Torque Reduction Capability of Fractional Slot PM Machines*
Ghada Ben Hadamou, Mongi Ben Hamadou, and Ahmed Masmoudi
University of Sfax, Tunisia

## *EV6: Lecture Session on Urban Transportation Trends*
## *16H30 – 18H30, Room Auric 4*

**Chairs: Pietro Menga (Italy) and Olaf Böse (Germany)**

**EVER11-09** *Required Characteristics of Future Vehicular Energy Storages*
Dominik Buecherl, Christiane Bertram, Igor Bolvashenkov, and Hans-Georg Herzog
Technische Universitaet Muenchen, Germany

**EVER11-44** *The Linkage between the Car Sharing and the Hydrogen Economy: a Possible Solution to the Main Problems of Urban Transportation*
Tamás Szabó, Ákos Kriston, and György Inzelt
Eötvös Loránd University, Hungary

**EVER11-79** *Ageing Behaviour of Ultra High Power Lithium Ion cells for Automotive Applications*
Olaf Böse, Peter Birke, and Michael Schiemann
Continental Powertrain, Germany

**EVER11-88** *Benefit Evaluation of Electric Vehicles in Specific Areas: A case of Freight Fleets*
Pietro Menga and Roberto Buccianti
CEI-CIVES, Italy

**EVER11-119** *Global Intelligent Transportation System*
Vladimir Postnikov
Metso Automation, Russia

**EVER11-120** *Electric Taxi for Mumbai City*
Harish Changarath Balasubramanian and Kishor Munshi
Indian Institute of Technology, India

**EVER11-21** *Using a Molecular Diffusion-based EGR with a Diesel Engine*
Mohamed N. Saeed, Adel A. Abdel-Rahman, and Amr F. SharafEldin
Alexandria University, Egypt

## *RE2: Lecture Session on Grids and Micro-Grids*
## *16H30 – 18H30, Room Ravel*

**Chairs: Brayima Dakyo (France) and Alain Berthon (France)**

**EVER11-10** *On the Connectivity of PV Panels to the Grid – Monitoring Systems*
Ali Rachini and Imad Mougharbel
Lebanese University, Lebanon
Hadi Y. Kanaan
Saint-Joseph University, Lebanon
S. Tselepsis, J. Nicoletatos, and E. Rikos
Centre of Renewable Energy Sources and Saving, Greece

**EVER11-23** *Design Criteria for Micro Combined Cooling-Heating-Power (mCCHP) Electric System*
Mihaela Chefneux and Mihaela Scortescu
Research Institute for Electrical Engineering ICPE SA, Roumania

**EVER11-46** *Simplified Voltage Model of the DC Microgrid*
Piotr Biczel, Mariusz Kocemba, and Marcin Koniak
Warsaw University of Technology, Poland

**EVER11-53** *Ultracapacitors and Batteries Integration for Power Fluctuations Mitigation in Wind-PV-Diesel Hybrid System*

M. A. Tankari, M.B.Camara, B. Dakyo, and C. Nichita
University of Le Havre, France

**EVER11-64** *Monitoring and Protection of Generators Connected to the Algerian Network 400 kV*

Mohamed Bouchahdane, Aîssa Bouzid, and Ilhem Bouchareb
University of Constantine, Algeria

**EVER11-66** *Improving Power Control of a Small Windmill Standalone Generator in Senegal*

Oumar BA and Pape Alioune Ndiaye
University Cheikh Anta Diop, Senegal

Daniel Depernet
University of Technology of Belfort-Montbéliard, France

Alain Berthon
University of Franche-Comté, France

**EVER11-73** *Distributed Tidal Generation in Southern Chile*

Robert E. Schacht and Juan Dixon
Pontificia Universidad Católica, Chile

## *EV7: Lecture Session on Variable Speed Drives*
## *18H00 – 19H30, Amphitheatre Camille Blanc*

**Chairs: Jean-paul Bécar (France) and Ahmed Masmoudi (Tunisia)**

**EVER11-20** *Lyapunov-Function-Based Flux Observer for AC Induction Motor Control*

Hichem Hamdi
Higher School of Sciences and Techniques of Tunis, Tunisia

Moncef gossa and Abderrahmen Zaafouri
Research Unit on Monitoring and Control Systems Dependability, Tunisia

**EVER11-24** *A Sliding Mode Control for Dual-Stator Induction Motor Drives Fed by Matrix Converters*

Hocine Amimeur and Rachid Abdessemed
University of Batna, Algeria

Djamal Aouzellag and Kaci Ghedamsi
University of Bejaia, Algeria

**EVER11-72** *Bull-ET: an High Performance Electric Kart*

Eric Armando, Barbara Boazzo, Paolo Guglielmi, and PFRT
Politecnico di Torino, Italy

**EVER11-87** *An Approach to Eradicate the Demagnetization Problem Penalizing Low Speed Operation of IM Drives Under DTC*

Badii Bouzidi, Abderrazak Yangui, Bassem El Badsi, and Ahmed Masmoudi
University of Sfax, Tunisia

**EVER11-127** *ExperimentalValidation of the Effect of the Stator Resistance Misidentification on the Performance of the Induction Motor under DTC*

Hassen Hasnaoui, Badii Bouzidi, and Ahmed Masmoudi
University of Sfax, Tunisia

## *18H30: Cocktail Reception*

## *Friday, April 1rst, 2011*

## *Plenary Session*
## *09H00 - 10H00, Amphitheater Camille Blanc*

**Chairs: Emilia Motoasca (The Netherlands) and Grzegorz Ombach (Germany)**

**EVER11-PS2** *Electrical Machines and Power-Electronic Systems for High-Power Wind Energy Generation Applications.*
Zi-Qiang Zhu and Jiabing Hu
University of Sheffield, United Kingdom

## *10H00 - 10H30: Coffee Break*

## *EV8: Lecture Session on Fault Diagnosis*
## *10H30 – 12H30, Amphitheatre Camille Blanc*

**Chairs: Hamid A. Toliyat (USA) and Zi-Qiang Zhu (United Kingdom)**

**EVER11-47** *Rotor Asymmetry Analysis and Diagnosis in the Closed-Loop and Sensorless Controlled Induction Motor Drive*
Piotr Kołodziejek
Gdańsk University of Technology, Poland

**EVER11-57** *Study on Fault Tolerant Power Converter for Switched Reluctance Drive Using Coupled Circuit-FEM*
Ilhem Bouchareb, Bachir Batoun, Amar Bentounsi, and Abdesselam Lebaroud
University Mentouri of Constantine, Algeria

**EVER11-63** *Application of Wavelet Transform For Wind Energy Generator Diagnostic*
Batoun Bachir, Amar Bentounsi, and Ilhem Bouchareb
University Mentouri of Constantine, Algeria
Nicolas Heraud
University of Corsica, France

**EVER11-89** *Air Gap Eccentricity Fault Detection in DFIG-Based Wind Energy Conversion Systems*
Vivek M. Sundaram and Hamid A. Toliyat
Texas A&M University, USA

**EVER11-90** *Modeling and Analysis of Broken Damper Bars in Synchronous Machines*

Mina Rahimian and Karen Butler-Purry
Texas A&M University, USA

Seung Choi
Toshiba, USA

**EVER11-97** *Diagnosis and Detection Rotor Dynamic Eccentricity Fault in Induction Motor*

Youcef Soufi
University of Tébessa, Algeria

Tahar Bahi, Mohamed Faouzi Harkat, and Hichem Merabet
University of Annaba, Algeria

## *REV1: Special Session on the Integration of Power Electronic Converters in Sustainable Systems (Part 1)*

## *10H30 – 12H30, Room Auric 4*

**Chairs: Ahmed Masmoudi (Tunisia) and Juan Dixon (Chile)**

**EVER11-IPECS1** *Optimal Power Control and Management of Fuel Cell / Supercapacitor Hybrid Electric Vehicles Using PSO Algorithm*

Omar Hegazy and Joeri Van Mierlo
Vrije Universiteit Brussel, Belgium

**EVER11-IPECS2** *Large scale wind integration with HVDC*

Frans Dijkhuizen and Staffan Norrga
ABB Corporate Research, Sweden

**EVER11-IPECS3** *A Novel Converter Design and Optimization for Solar Energy Systems*

Ilhami Colak and Mehmet Demirtas
Gazi University, Turkey

Ersan Kabalci
Nevsehir University, Turkey

**EVER11-IPECS4** *Delta-Inverter Fed Six-Phase BDCM Drives: Analysis and Control*

Asma Ben Rhouma and Ahmed Masmoudi
University of Sfax, Tunisia

**EVER11-IPECS5** *New Concept of 2-Phase Electronic Propulsion Systems for an EV Transport Application*

Branislav Dobrucky, Michal Prazenica, and Pavol Spanik
University of Zilina, Slovak Republic

## *REV2: Special Session on Sustainable System Project Based Learning*

## *10H30 – 12H30, Room Auric5*

**Chairs: Alain Berthon (France) and Shane Colton (USA)**

**EVER11-SPBL1** *An Electrical Go-Kart for Project Based Learning Platform*

Jean-paul Bécar
University of Valenciennes, France

Thierry Lequeu
University of Tours

Shane Colton
Massachussets Insitute of Technology, USA

**EVER11-SPBL2** *A Fuzzy Logic Application for Go-Kart: a Battery Charger*

Arnaud Sivert and Franck Betin
University of Picardie, France

Jean-Paul Bécar
University of Valenciennes, France

**EVER11-SPBL3** *Educational Equipment: a Sun Tracking Photovoltaic System for a Transversal Teaching Approach*

Vincent Grennerat, Eric Chamberod, Jean-Marc Boggetto, and Pascal Xavier
University Joseph Fourier, France

**EVER11-SPBL4** *An Electrical Bike for Project Based Learning Platform*

Arnaud Sivert and Franck Betin
University of Picardie, France

Jean-Paul Bécar
University of Valenciennes, France

**EVER11-SPBL5** *Problem-Based Learning at University of Artois: Students' Projects in Renewable Energies*

François Maeght, Pierre-Yves Cresson, and Patrick Favier
Université d'Artois, France

Désiré D. Rasolomampionona
Warsaw University of Technology, Poland

**EVER11-SPBL6** *eCARus – A Collegiate Project for Electric Vehicle Development and Operation*

Christiane Bertram, Dominik Buecherl, Tom P. Kohler, Andreas Thanheiser, Florian Ruf, Kathrin Bach, Igor Bolvashenkov, and Hans-Georg Herzog
Technical University of Munich, Germany

## *EV9: Special Poster Session on Vehicle Design*

## *10H30 – 12H30, Room Hall*

**Chairs: Artur Grisanti Mausbach (Brasil) and Kishor Munshi (India)**

**EVER11-VD1** *SABIÁ VI: a Case Study of an Eco-friendly Prototype Vehicle*

Jairo José Drummond Câmara and Lívia Galvão Fiuza
State University of Minas Gerais, Brazil

Róber Dias Botelho
Universitè de Cergy Pontoise, France

**EVER11-VD2** *A New Mobility 'Fit for Life'*

Stéphane Schwarz
Stephane Schwarz Studio and Royal College of Art, United Kingdom

**EVER11-VD3** *Fiat New Uno Ecology*

Peter Fassbender
Brand Head for Fiat Style Center America Latina, Brazil

**EVER11-VD4** *Electric Vehicle Design Initiatives in India & some Case Studies*

Kishor Munshi
IIT Bombay, India

**EVER11-VD5** *Redesign the Myth of the Automobile*

Artur Grisanti Mausbach
University of Sao Paulo, Brazil

**EVER11-VD6** *The Art of Lightweight Vehicle Engineering: a Historical Perspective*

Max Fickel and Paul D. Ewing
Royal College of Art, United Kingdom

**EVER11-VD7** *Exploring the Requirements for a New Typology of Urban Electric Vehicle*

Lino Vital
Royal College of Art, United Kingdom

## *REV3: Special Session on Towards Energy Autonomy (Part 1)*

## *10H30 – 12H30, Room Ravel*

**Chairs: Harald N. Røstvik (Norway) and Raoul Viora (Monaco)**

**EVER11-TEA1** *Welcome Speech*

Raoul Viora
World Energy Council, Monaco

**EVER11-TEA2** *Towards Energy Autonomy?*

Harald N. Røstvik
Architect SunLab and Bergen School of Architecture, Norway

**EVER11-TEA3** *Learning about the Low Carbon Society (LCS)*

Eva Schuepbach
Bern University of Applied Sciences, Switzerland

**EVER11-TEA4** *Toyota' Road towards Energy Autonomy*

Ståle Oftedal
Toyota Sørvest AS, Norway

**EVER11-TEA5** *The Synergy of Plus-Energy Houses with E-Mobility: Total Energy Autonomy Is Now Feasible*

Urs Muntwyler
Bern University of Applied Sciences, Switzerland

**EVER11-TEA6** *Using Fouggara for Heating and Cooling Buildings in Sahara*

Sofiane Amara and Bo Lundell
Luleå University, Sweden

Boumediene Benyoucef
University of Tlemcen, Algeria

## *12H30 – 14H00: Lunch*

## *REV3: Special Session on Towards Energy Autonomy (Part 2)*
## *13H30 – 14H30, Room Ravel*

**Chairs: Harald N. Røstvik (Norway) and Raoul Viora (Monaco)**

**EVER11-TEA7** *World Power Grid from OTEC Energy Islands*

Dominic Michaelis
Architect Energy Islands Ltd, France

**EVER11-TEA8** *Towards Energy Autonomy: Discussion, Conclusions and Outlook*

Harald N. Røstvik
Architect SunLab and Bergen School of Architecture, Norway

Raoul Viora
World Energy Council, Monaco

## *RE3: Lecture Session on Variable Speed Generating Systems*
## *14H30 – 16H00, Room Ravel*

**Chairs: Mamadou L. Doumbia (Canada) and Xavier Py (France)**

**EVER11-36** *Study and Control of Wind Energy Conversion System Based Permanent Magnet Synchronous Generator Connected to the Grid*

Aziz Remli, Djamal Aouzellag, and Kaci Ghedamsi
University of Bejaia, Algeria

**EVER11-40** *Modeling and Control of PMSG-Based Variable-Speed Wind Turbine Connected to the Grid*

Mohamed Mansour, Mohamed Néjib Mansouri, and Mohamed Faouzi Mimouni
University of Monastir, Tunisia

**EVER11-42** *New Control Strategy of Wind Generator based on the Dual-Stator Induction Generator*

Samira Chekkal, Djamal Aouzellag, and Kaci Ghedamsi
Department of Electrical engineering, University of Bejaia, Algeria

Hocine Amimeur
Department of Electrical engineering, University of Batna, Algeria

**EVER11-55** *Modeling and Control of a Doubly-fed Induction Generator*

Tahar Bahi, Azzeddine Dekhane, and Hichem Merabet
University of Annaba, Algeria

Youcef Soufi

University of Tebessa, Algeria

## *REV1: Special Session on the Integration of Power Electronic Converters in Sustainable Systems (Part 2)*

## *14H00 – 16H00, Room Auric 4*

**Chairs: Ahmed Masmoudi (Tunisia) and Juan Dixon (Chile)**

**EVER11-IPECS6** *23-Level Inverter for EVs Using Only One Power Supply and Series Active Filters*

Juan Dixon and Javier Pereda
Pontificia Universidad Católica, Chile

**EVER11-IPECS7** *Harmonics Minimization of Multilevel Inverter Connecting Source Renewable Energy to Power System*

Youcef Soufi
University of Tébessa, Algeria

Sihem Ghoudelbourk
University of Skikda, Algeria

Tahar Bahi and Hichem Merabet
University of Annaba, Algeria

**EVER11-IPECS8** *Four-Switch Inverter Fed BDCM Drives: a Survey*

Asma Ben Rhouma and Ahmed Masmoudi
University of Sfax, Tunisia

**EVER11-IPECS9** *Modeling and Control of a Stand-Alone Doubly Fed Induction Generator (DFIG) Based Wind Energy Conversion System*

T. Mesbahi, T. Ghennam, E.M. Berkouk, M. Meradji, and A. Benidder
Ecole Nationale Polytechnique El-Harrach, Algeria

**EVER11-IPECS10** *Control Aspects of Novel Switched Step-Up-Down Converter for Low-Voltage Application*

Sergey Ryvkin
Trapeznikov Institute of Control Sciences, Russia

Felix A. Himmelstoss
University of Applied Science Technikum Wien, Austria

## *RE4: Special Session on Hybrid Green Energy Technologies (Part 1)*
## *14H00 – 16H00, Room Auric 5*

**Chairs: Ilhami Colak (Turkey) and Fujio Kurokawa (Japan)**

**EVER11-HGET1** *A Novel Technique for Power Factor Calculation Using a PLC*

Ramazan Bayindir, Ilhami Colak, and Orhan Kaplan
Gazi University, Turkey

**EVER11- HGET2** *Islanding Detection Method for a Hybrid Renewable Distributed Generator*

Mylène Robitaille, Kodjo Agbossou, Mamadou Lamine Doumbia, and Rémy Simard
Université du Québec à Trois-Rivières, Canada

**EVER11- HGET3** *Simulation and Control of a Doubly-Fed Induction Generator for Variable Speed Wind Energy Conversion Systems*

Karim Belmokhtar, Mamadou Lamine Doumbia, and Kodjo Agbossou
Université du Québec à Trois-Rivières, Canada

**EVER11- HGET4** *The Dynamics of Diesel-Generator Unit in Isolated Electrical Network*

Marija Mirošević and Daniel Pavlinović
University of Dubrovnik, Croatia

Zlatko Maljković
Faculty of Electrical Engineering and Computing Zagreb, Croatia

**EVER11- HGET5** *Review of Wind Energy Conversion Systems for Large Wind Turbines and Simulation of a back-to-back Electronic Power Converter*

Dimitrios G. Giaourakis, and Athanasios N. Safacas
University of Patras, Greece

## *16H00 - 16H30: Coffee Break*

## *EV10: Special Session on PM Motors for Automotive Drives*

## *16H30 – 18H30, Room Auric 4*

**Chairs: Grzegorz Ombach (Germany) and Zi-Qiang Zhu (United Kingdom)**

**EVER11-PMAD1** *Improved Energy Efficiency for Conventional Vehicles through an Enhanced Dual Voltage Architecture and New Components with an Attractive Cost-Benefit Ratio*

Bob Simpkin (MIRA), Rosella Marco (CRF), Carlo D'Ambrosio (CRF), Marcus Abele (Bosch), Georg Heuer (Bosch), Dr. Antoni Ferré (LEAR), Ion Boldea (UPT), Sever Scridon (BEESPEED)

**EVER11- PMAD2** *Demagnetization Analysis of IPM Motor versus SPM Motor in Automotive Application*

Wojciech Chlebosz, Grzegorz Ombach, and Jacek Junak
Brose Fahrzeugteile GmbH & Co. Kommanditgesellschaft, Germany

**EVER11- PMAD3** *Numerical Analysis of Brushless Motor Optimized for Block Voltage Control for Automotive Applications*

Jacek Junak and Grzegorz Ombach
Brose Fahrzeugteile GmbH & Co. KG, Germany

Daniel Fiederling
Reinhold-Würth-Hochschule Künzelsau, Germany

**EVER11- PMAD4** *Challenges and Requirements to Design of PM Electric Motors for Automotive Application and High Volume*
Jacek Junak and Grzegorz Ombach
Brose Fahrzeugteile GmbH & Co. KG, Germany

**EVER11- PMAD5** *Analysis of Permanent Magnet Losses by using Pulsed Field Magnetometer*

Grzegorz Sawczuk and Grzegorz Ombach
Brose Fahrzeugteile GmbH & Co. KG, Germany

Luc Van Bockstal
Metis Instruments & Equipment, Belgium

**EVER11- PMAD6** *Sensorless Control of Interior Permanent Magnet Synchronous Motor Using Flux Observer*

Jian-Xin Shen, He Hao, and Can-Fei Wang
Zhejiang University, China

## *RE4: Special Session on Hybrid Green Energy Technologies (Part 2)*
## *16H30 – 18H30, Room Auric 5*

**Chairs: Ilhami Colak (Turkey) and Sergey Ryvkin (Russia)**

**EVER11- HGET6** *Design and Performance Analysis of the Drive System in Fuel Cell Electric Vehicle*

Savvas Tsotoulidis and Athanasios Safacas
University of Patras, Greece

**EVER11- HGET7** *An Improved Transient Response of Power Turbine Generators as Heat Recovery Energy in Parallel Running on Ship-Board*

Nobumasa Matsui
Choryo Control System Co., Ltd., Japan

Fujio Kurokawa
Nagasaki University, Japan

**EVER11- HGET8** *A Novel Digital P-I-D Control LLC Resonant Converter*

Fujio Kurokawa, Koji Murata, and Yuki Maeda
Nagasaki University, Japan

**EVER11- HGET9** *Modeling and Control of Wind Power Conversion System with a Flywheel Energy Storage System*

Seifeddine Belfedhal
University of Ibn Khaldoun Tiaret, Algeria

El-Madjid Berkouk
Ecole Nationale Polytechnique El-Harrach, Algeria

**EVER11- HGET10** *Hybrid Green Energy Technologies: An Electric-free Solar Tracker*

Chen-Wei, Feng
CN-J Technology Co. Ltd, Taiwan R.O.C

**EVER11- HGET11** *Influence of Energy Production Technology on Electric Hybrid and Electric Vehicles*

Zdenek Cerovsky and Pavel Mindl
Czech Technical University in Prague, Czech Republic

## *RE5: Special Session on Achievements Developed within the FP7 BeyWatch European Scientific Project*

## *16H30 – 18H30, Room Ravel*

**Chairs: Rosario Miceli (Italy) and Frans Dijkhuizen (Sweden)**

**EVER11-FP7-BW1** *The FP7 BeyWatch European Scientific Project: General Features and Design Criteria of the Combined Photovoltaic Solar (CPS) System within the BeyWatch System Architecture*

C. Giaconia, G. Fertitta, D. La Cascia, F. Lo Bue, R. Miceli, and C. Rando
University of Palermo, Italy

**EVER11-FP7-BW2** *Efficiency Improvement of Permanent-magnet Synchronous Motor Drives for Household Appliances*

A.O. Di Tommaso, R. Miceli, and G. Ricco Galluzzo
University of Palermo, Italy

**EVER11-FP7-BW3** *An Embedded System for the Integration of a Combined Photovoltaic Solar (CPS) System into a ZigBee Home Area Network*

G. Fertitta, C. Giaconia, and F. Lo Bue
University of Palermo, Italy

**EVER11-FP7-BW4** *A New Control System Prototype for the Energy Production Maximization of a Unequally Irradiated PV System*

V. Di Dio, D. La Cascia, C.Rando, and G. Ricco Galluzzo
University of Palermo, Italy

**EVER11-FP7-BW5** *Smart Grids: the Next Future of Electrical Distribution Systems*

Salvatore Favuzza and Rosario Miceli
University of Palermo, Italy

## *20H30: Official Dinner*