

Technical Program Day 1 - 25 October

	PID	Title
10:45 AM - 12:25 PM	Session 1, RT2-1	
	Co-Chairs: Alessandro Serpi (University of Cagliari, Italy) & Trung Duong (ABB Corporate Research Center, Germany)	
	2023002283	<p>High efficiency permanent magnet synchronous motor for an electrical air conditioning compressor</p> <p>Mohamed Khanchoul, Ilakya Elumalai, Vinothini Gurudevan, Imed Guitari, Valeo Système Thermique, France; Guillaume Krebs, GEEPS, Université Paris-Saclay, France</p>
	2023002106	<p>A simplified analytical approach for NVH assessment of permanent magnet synchronous motors</p> <p>Massimiliano Gobbi, Federico Ballo, Gianpiero Mastinu, Dario Barri, Federico Soresini, Dept. of Mechanical Engineering, Politecnico di Milano, Italy</p>
	2023002059	<p>A Comparative Study of Torque Estimation Algorithms for Switched Reluctance Motors</p> <p>Lourenço Espírito Santo, Manuel Pereira, Rui Esteves Araújo, Faculty of Engineering, University of Porto, Portugal</p>
	2023001979	<p>Reduced Order Electromagnetic Thermal Coupled Model of EV PMSM for Digital Twin Applications</p> <p>Yuan Cheng, Wan Huang, China; Bochao Du, Ziming Guan, Shumei Cui, [Institute of Electromagnetic and Electronic Technology, Harbin Institute of Technology, China</p>
	2023002100	<p>Influence of Modification of Dual V-shaped IPMSM Rotor Permanent Magnet Structure on Motor Performance</p> <p>Weili Li, Shifan Luo, Jiafeng Shen, Haoyue Tang, Baowang Huang, School of Electrical Engineering, Beijing Jiaotong University, China; Ping Yu, Jing-Jin Electric Technologies Co., Ltd, China</p>
	Session 2, RT2-2	
	Co-Chairs: Ke Li (University of Nottingham, UK) & Mario Porru (University of Cagliari, Italy)	
	2023002192	<p>Small-signal stability analysis of shipboard power electronics-based DC microgrids</p> <p>Maria Carmela Di Piazza, Giuseppe La Tona, Massimiliano Luna, Department of Engineering, ICT and technologies for energy and transportation, Consiglio Nazionale delle Ricerche (CNR) - Istituto di Ingegneria del Mare (INM), Italy</p>
	2023002307	<p>The Effect of DAB Converter Series Inductor Configurations on the Transformer Interwinding Capacitance Voltage Waveform</p> <p>Claus S. Kjeldsen, Centre for Industrial Electronics (CIE), University of Southern Denmark, Denmark; Christian Østergaard, Centre for Industrial Electronics (CIE), University of Southern Denmark, Denmark</p>
	2023002522	<p>Wide Bandgap-Based Inverter Prototype for Variable Speed Electrical Propulsion Drives</p> <p>Svetomir Stevic, Niklas Driendl, Benedikt Groschup, Sebastian Mönninghoff, Hujun Peng, Kay Hameyer, Institute of Electrical Machines and Chair in Electromagnetic Energy Conversion, RWTH Aachen University, Germany; David Franck, CirQua GmbH, CirQua GmbH, Germany</p>
	2023002277	<p>Inductance and Power Losses Analysis of an Arm Inductor for a Modular Multilevel Converter</p> <p>Yang Wang, MOBI EPOWERS, Vrije Universiteit Brussel, Belgium</p>
	2023002199	<p>Evaluation of Permanent Magnet Motor Performances using Different Driving Cycles for Electric Vehicles</p> <p>Khalil Abdelali, Bachir Bendjedja, Electrical Engineering, LACOSER Laboratory, Algeria; Aissam Riyad Meddour, Nassim Rizoug, Electrical Engineering, S2ET Laboratory, ESTACA, France</p>
Session 3, RT1-1		
Co-Chairs: João Pedro Trovão (University of Sherbrooke, Canada) & Ronan German (University of Lille, France)		
2023002133	<p>Aging Determination of Lithium Ion Batteries Based on Thermal Measurements</p>	

	Joanna Kozma, Roberval, Khadija El Kadri Benkara, Christophe Forgez, Roberval, Guy Friedrich, - Mechanics, Energy and Electricity , University of Technology of Compiègne, France; Rabih Dib, Nazih Moubayed, LaRGES, Faculty of Engineering, Lebanese University, Lebanon
2023001989	Capacity Dispersion and Impact of Outliers in a Second Life Battery Marwan Hassini, Univ Eiffel, Univ Lyon, France
2023002035	Health-conscious charging of lithium-ion battery cells: using physics-based models to minimize calendar and cyclic ageing effects Medina Robinson , Erik Hoedemaekers, Steven Wilkins, Powertrains, TNO, Netherlands
2023001929	Limitations of the State of Health and Health Indicators for Electric Vehicle batteries Maite Etxandi-Santolaya, Energy Systems Analytics, IREC, Spain; Lluc Canals Casals, Engineering Projects and Construction, UPC, Spain; Cristina Corchero, Energy Systems Analytics, IREC, Spain
2023001946	High-Precision On-Board Capacity Estimation of Lithium-Ion Cells using a Fractional-Order Cell Model and Singular Value Decomposition Yassine Bensaad, Fabian Friedrichs, Thorsten Baumhöfer, Judith Bähr, Battery Algorithms, Mercedes-Benz AG, Germany; Alexander Fill, Kai Peter Birke, Electrical Energy Storage, University of Stuttgart, Germany
Session 4, SS2	Co-Chairs: Vincenzo Paolo Loschiavo (University of Sannio, Italy) & Federico Zanelli (Politecnico di Milano, Italy)
2023002244	Performance Analysis of Linear and Rotary Energy Harvesting Shock Absorber Systems Gianfranco Gagliardi, Pierluigi Manna, Paul Christian Tesso Wofo, Alessandro Casavola, DIMES, University of Calabria, Italy
2023002107	Piezoelectric Energy Harvesting for Self-Supplied Tyre Sensing Applications Cinzia Tamburini, Aldo Romani, ARCES, University of Bologna, Italy; Matteo Pizzotti, DEI, University of Bologna, Italy; Leena Rynnänen, Mika Penttilä, Department of Products and Innovations, Nokian Tyres Plc, Finland
2023002224	Design of a linear generator for energy harvesting from interstitial space in suspensions Enrico Spateri, Dipartimento di elettronica, informazione e bioingegneria, Politecnico di Milano, Italy; Giambattista Gruosso, Dipartimento di elettronica, informazione e bioingegneria, Politecnico di Milano, Italy
2023001986	Enhancing Electric Vehicle Comfort with Magnetostrictive Energy Harvesting Carmine Stefano Clemente, Vincenzo Paolo Loschiavo, Daniele Davino, Department of Engineering, University of Sannio, Italy
Session 5, SS7	Co-Chairs: Gabriele Fambri (Politecnico di Torino, Italy) & Fabia Miorelli (German Aerospace Center, Germany)
2023002226	Economic potential of V2G in electricity markets – A systematic literature review Tim Signer, Felix Unger, Manuel Ruppert, Wolf Fichtner, IIP, KIT, Germany
2023002016	Electric Vehicles Integration in Automatic Generation Control of Modern Power System Zahid Ullah, Giambattista Gruosso, Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano, Italy; Kaleem Ullah, Department of Electrical Energy System, CASE UET Peshawar, Pakistan
2023002239	Mixed Incentive-based and Direct Control Framework for EV Demand Response Cesar Diaz-Londono, Andres Cordoba, Fredy Ruiz, Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano, Italy; José Vuelvas, Electronics, Pontificia Universidad Javeriana, Colombia

- 2023002215 **Model Predictive Control for EV chargers coupling electro-thermal and degradation battery models**
Xabier Dorransoro, Erik Garayalde, Unai Iraola, Electronics and Computer Science, Mondragon Unibertsitatea, Spain; Ricardo De Castro, Mechanical Engineering, University of California, Merced, United States; Jorge Varela, Electronic Engineering, Univesitat Politècnica de Catalunya, Spain;
- 2023002253 **Utilization Analysis of Rapid and Ultra-Rapid Electric Vehicle Chargers in Europe**
Cesar Díaz-Londono, Giambattista Grusso, Dipartimento di Elettronica Informazione e Bioingegneria, Politecnico di Milano, Italy; Michele Motta, Diego Pareschi, E-mobility S.p.A., ABB, Italy

LUNCH: 12:25 PM - 13:45 PM

01:45 PM - 03:25 PM

- Session 6, RT1-2 Co-Chairs: Theodoros Kalogiannis (Vrije Universiteit Brussel, Belgium) & Ali Sari (University of Lyon, France)**
- 2023002147 **Equivalent Circuit Model For Sodium-Ion Batteries With Physical-Based Representations Of Their Non-Linearities**
Houssam Rabab, Nicolas Damay, Christophe Forgez, Roberval (Mechanics, energy and electricity), Centre de recherche Royallieu, University of Technology of Compiègne, France; Asmae El Mejdoubi, Aurélien Quelin, Tiamat Energy, Tiamat Energy, France
- 2023002256 **Modeling and evaluation of dynamical properties of different energy storage systems using machine learning methods**
Imene Benrabia, Dirk Söffker, Chair of Dynamics and Control, Duisburg Essen university, Germany
- 2023002293 **Model Order Reduction of the Doyle-Fuller-Newman Model via Proper Orthogonal Decomposition and Optimal Collocation**
Gianluca Manduca, The BioRobotics Institute & Department of Excellence in Robotics and AI, Scuola Superiore Sant'Anna, Pisa, Italy; Zhaoxuan Zhu, Autonomy Research, Motional, United States; Polina B. Ringler, Dep. of Mechanical Engineering, Colorado School of Mines, United States; Guodong Fan, School of Mechanical Engineering, Shanghai Jiao Tong University, China; Marcello Canova, Center for Automotive Research, The Ohio State University, United States
- 2023002222 **Separating multiscale Battery dynamics and predicting multi-step ahead voltage simultaneously through a data-driven approach**
Tushar Desai, Riccardo Ferrari, Delft Center for Systems and Control, Delft University of Technology, Netherlands
- 2023001950 **PSO Tuned Variable Forgetting Factor Recursive Least Square Estimation of 2RC Equivalent Circuit Model Parameters for Lithium ion Batteries**
Mohamed A. A. Mohamed, Thomas Grandjean, Warwick Manufacturing Group, Warwick University, United Kingdom; Tung Fai Yu, Jaguar Land Rover, Warwick, United Kingdom
- Session 7, SS8 Co-Chairs: Eric Hittinger (Rochester Institute of Technology, USA), & Julia Frotey (Institut National de la Recherche Scientifique, Canada)**
- 2023002320 **Charging Stations for Electric Vehicles Powered by Renewable Energy: spatial deployment, typology of infrastructures and pioneer stakeholders**
Julia Frotey, UMR INRS-UQAR, INRS, Canada; Elodie Castex, TVES, University of Lille, France; Alain Bouscayrol, L2EP, University of Lille, France; Eric Hittinger, Arts, Rochester Institute of Technology, United States
- 2023002338 **Experimental PV-based charging station for e-bikes**
Salma Fadili, Lauro Ferreira, Philippe Delarue, Alain Bouscayrol, Halima Ikaouassen, Electrical engineering, University of Lille, France; Frederic Bonin, Energetic, Urbik, France; Nicolas Ferlay, Meteorologie, University of Lille, France

2023002013	<p>Data-based traffic profile generation tool for electric vehicle charging stations</p> <p>Josu Yeregui, Iosu Aizpuru, June Urkizu, Electronics and Computing, Mondragon Unibertsitatea, Spain</p>
2023001942	<p>Simulation of Electric Vehicle Energy Consumption of Real Driving Behaviour</p> <p>Andrea Di Martino, Energy, Politecnico di Milano, Italy; Daniele Martini, Energy, Politecnico di Milano, Italy; Michela Longo, Energy, Politecnico di Milano, Italy; Dario Zaninelli, Energy, Politecnico di Milano, Italy</p>
2023002262	<p>Trends and Heterogeneity in Electric Vehicle Economics: a French Case Study</p> <p>Eric Hittinger, Public Policy, Rochester Institute of Technology, United States; Ranjit Desai, Center for Mobility Sciences, National Renewable Energy Laboratory, United States; Alain Bouscayrol, Laboratoire d'Électrotechnique et d'Électronique de Puissance, University of Lille, France</p>
Session 8, RT2-3	Co-Chairs: Marina Mendes Perdigao (Polytech Institute of Coimbra, Portugal) & Souso Kelouwani (University of Quebec at Trois-Rivières, Canada)
2023002102	<p>Electric Motor Optimal Design based on Multi-physics Modelling and Artificial Intelligence</p> <p>Massimiliano Gobbi, Giampiero Mastinu, Dept. of Mechanical Engineering, Politecnico di Milano, Italy; Antonino Di Gerlando, Dept. of Energy, Politecnico di Milano, Italy</p>
2023002184	<p>Effective Scaling of High-Fidelity Electric Motor Models for Electric Powertrain Design Optimization</p> <p>Olaf Borsboom, Martijn Lokker, Mauro Salazar, Theo Hofman, Mechanical Engineering, Eindhoven University of Technology, Netherlands</p>
2023002212	<p>Comparative Study on the Effect of PMSM Scaling Choices on Electric Vehicle Energy Consumption</p> <p>Ayoub Aroua, L2EP laboratory, University of Lille, France; Department of Electromechanical Systems and Metal Engineering, Ghent University, Belgium; Walter Lhomme, Alain Bouscayrol, L2EP laboratory, University of Lille, France; Peter Sergeant, Florian Verbelen, Kurt Stockman, Department of Electromechanical Systems and Metal Engineering, Ghent University, Belgium</p>
2023002279	<p>Power Harmonic Component Suppression in case of Un-Ideal Electro-motive Forces</p> <p>Paolo Meloni, Alessandro Serpi, Electrical and Electronic Engineering, University of Cagliari, Italy</p>
2023001967	<p>Magnetic Field Orientation Compensation for Induction Motors Based on Voltage Feedback</p> <p>Yuan Cheng, Guangshun Fu, Bochao Du, Kai Yao, School of Electrical Engineering, Harbin Institute of Technology, China; ASPMS, Chongqing Research Institute of HIT, China; Shumei Cui, School of Electrical Engineering, Harbin Institute of Technology, China</p>
Session 9	Open
Session 10, RT5-1	Co-Chairs: Sylvain Pagerit (Argonne National Labs, USA) & Rochdi Trigui (Gustave Eiffel University, France)
2023002074	<p>A method to build energy-metric-optimal (EMO) classification systems for road transport missions</p> <p>Luigi Romano, Bengt Jacobson, Mechanics and Maritime Sciences, Chalmers University of Technology, Sweden; Manish Raathimiddi, Engineering Systems, HAN University of Applied Sciences, Netherlands; Fredrik Bruzelius, Mechanics and Maritime Sciences, Chalmers University of Technology, Sweden; Rickard Andersson, Volvo, Volvo AB, Sweden</p>
2023002000	<p>Case Study on the Impact of the Road Gradient, Passenger Loading and Recuperation Power Limitations on the Energy Consumption of Battery Electric Buses</p>

Benjamin Martin, Denis Spiess, Samuel Würtz, Forschungszentrum Allgäu (IFA), University of Applied Sciences Kempten, Germany; Ulrich Göhner, Department of Computer Science, University of Applied Sciences Kempten, Germany; Andreas Rupp, Department of Engineering, University of Applied Sciences Kempten, Germany

2023002158 **Effect of different driving styles on the energy consumption and CO2 emission**

Michele Vignati, Federico Cheli, Mechanical Engineering, Politecnico di Milano, Italy; Valerio Matarrese, Innovation and Testing Center, Generali Jeniot, Italy; Michele Serra, Product Development, Delivery, and R&D, Generali Jeniot, Italy

2023001963 **Development of a Matlab Application for the Preliminary Design of Electric Propulsion Systems**

Andrea Floris, Salvatore Mastinu, Mario Porru, Electrical and electronic engineering, University of Cagliari, Italy

2023001959 **Real World Driving Representative Cycle Generation for Hybrid Electric Vehicles**

Egemen Karabiyik, Calibration, SW and Autonomous Technologies, AVL Research & Engineering Turkey, Turkey; Adnan Furkan Yildiz, Calibration, AVL Research & Engineering Turkey, Turkey

COFFEE BREAK: 03:25 PM - 04:00 PM

04:00 PM - 06:00 PM

Session 11, SS5

Co-Chairs: Walter Lhomme (University of Lille, France) & Bedatri Moulik (Amity University, India)

2023002249 **Reduced-Scale Hardware-in-the-Loop Platform for Dual-Source Off-Road Electric Vehicle using Energetic Macroscopic Representation**

Chi T. P. Nguyen, Electrical and Computer Engineering, University of Sherbrooke, Canada; Engineering School, Thainguyen University of Technology, Vietnam; Bao-Huy Nguyen, CTI Lab., Hanoi University of Science and Technology, Vietnam; e-TESS Lab, University of Sherbrooke, Canada; Joao Pedro F. Trovao, e-TESS Lab., University of Sherbrooke, Canada; INESC Coimbra, IPC ISEC, Portugal; Minh C. Ta, e-TESS Lab., University of Sherbrooke, Canada; CTI Lab., Hanoi University of Science and Technology, Vietnam

2023002323 **Energetic Macroscopic Representation Graphical Tool for Automatic Drawing**

Ruben Gonzalez-Rubio, e-TESS Lab, Department of Electrical and Computers Engineering, University of Sherbrooke, Canada; Marco Duquesne, Alain Bouscayrol, Ronan GERMAN, L2EP, Univ. Lille, France; João P. Trovão, e-TESS Lab, Department of Electrical and Computers Engineering, University of Sherbrooke, Canada; Polytechnic-Institute-of-Coimbra-(IPC-ISEC), INESC-Coimbra, Portugal; Minh C. Ta, e-TESS Lab, Department of Electrical and Computers Engineering, University of Sherbrooke, Canada

2023002214 **Fast Charge of a Battery Considering Temperature**

Ronan German, Alain Bouscayrol, L2EP, Univ. Lille, France; Abdelkader Zaouak, L2EP, Univ. Lille, France; IRH, UQTR, Canada Loic Boulon, IRH, UQTR, Canada

2023002314 **Impact of Maximal Velocity and Acceleration on Energy Consumption of a Subway Vehicle**

Ryan O. Berriel, Philippe Delarue, L2EP, Alain Bouscayrol, L2EP, Université de Lille, France; Clément Mayet, SATIE, Le CNAM – ENS Paris-Saclay, France; Charles Brocart, Evolution du métro, Métropole Européenne de Lille, France

2023001938 **Comparison of Different Braking Strategies to Improve the Energy Recovery of an Electric Vehicle based on Cascaded H-Bridge Inverter with Batteries**

Gaël Pongnot, SATIE, ENS Paris-Saclay, France; Clément Mayet, Denis Labrousse, SATIE, Conservatoire national des arts et métiers, France

2023002284 **Energy management and multi-objective optimization of a fuel cell hybrid vehicle**

Session 12, RT7	
Co-Chairs: Christoph Hametner (TU Wien, Austria) & Nadia Yousfi-Steiner (University Bourgogne Franche-Comté, France)	
2023001943	Adaptive Step Size Dynamic Programming for Optimal Energy Management of Fuel Cell Vehicles Sandro Kofler, Zhang Peng Du, Stefan Jakubek, Institute of Mechanics and Mechatronics, TU Wien, Austria; Christoph Hametner, Christian Doppler Laboratory for Innovative Control and Monitoring of Automotive Powertrain Systems, TU Wien, Austria
2023002303	A Data-Based Prognostic Technique Of A Proton Exchange Membrane Fuel Cell Applying Dynamic Load Cycle Luis Perez, FEMTO-ST Institute, FCLAB, CNRS, Belfort, Université de Franche-Comté, France; Hydrogen Research Institute, Université Du Quebec a Trois-Rivieres, Canada; Alexandre Ravey, CNRS, institut FEMTO-ST, Belfort, UTBM, France; Javier Solano, European Institute for Energy Research (EIFER), European Institute for Energy Research (EIFER), Germany; Loïc Boulon, Hydrogen Research Institute, Université Du Québec a Trois-Rivières, Canada; Samir Jemei, FEMTO-ST Institute, FCLAB, CNRS, Belfort, Université de Franche-Comté, France
2023001925	Hydrogen For Railways: an Industrial Benchmark Study Luca Pugi, Michael Spedicato, Lorenzo Berzi, Dept. of Industrial Engineering, University of Florence, Italy; Francesco Cirillo, Trenitalia, Gruppo Ferrovie Dello Stato, Italy;
2023002202	Designing a Hierarchical Energy Management Strategy for a Hybrid Multi-Stack Fuel Cell System Mohsen Kandidayeni, Electrical and Computer Engineering, University of Sherbrooke, Canada; Electrical and Computer Engineering, University Quebec Trois-Rivieres, Canada; Sousso Kelouwani, Mechanical Engineering, University of Quebec in Trois-Rivières, Canada; Loïc Boulon, Electrical and Computer Engineering, University of Quebec in Trois-Rivières, Canada; João P. Trovão, Electrical and Computer Engineering, University of Sherbrooke, Canada
2023001937	Performance Assessment of a Low-Temperature PEMFC Powered Integrated Propulsion System for UAV with Inclined Cathode Flow Structure Zhou Kehan, Zhiwei Liu, Nan Meng, Mingjing Qi, Jianmei Huang, Xiaojun Yan, School of energy and power engineering, Beihang University, China
2023001939	Design and Implementation of Pure H₂/O₂ Fuel Cell–Battery Hybrid Systems for Long-range AUVs Laeun Kwon, Maritime Technology Research Institution, Agency for Defense Development, South Korea; Kyungdon Baik, Kiyoul Kim, Material/Energy Technology Center, Agency for Defense Development, South Korea; Jong-Gu Kang, Maritime Technology Research Institution, Agency for Defense Development, South Korea; SeungWoo Byun, Naval Business Department, Hanwha Systems, South Korea; Changsun Ahn, School of Mechanical Engineering, Pusan National University, South Korea; Daeyon Kwak, Hydrogen and Fuel Cell, Bumhan Fuel Cell, South Korea
Session 13, RT6	
Co-Chairs: Paulo Pereirinha (INESC Coimbra, Portugal) & Cedric De Cauwer (Vrije Universiteit Brussel, Belgium)	
2023002217	Charging Design for Battery Electric Multiple Unit: Implementation on a Real Railway Line Andrea Di Martino, Alessandro Talarico, Energy, Michela Longo, Federica Foidelli Politecnico di Milano, Italy; Alessandro Borselli, Technical direction, Trenord srl, Italy; Matteo Bubici, Technical Administrative department, Rete Ferroviaria Italiana, Italy
2023002136	Automotive Charger Grid-Forming Control Opportunities for G2V and V2X Applications Elie FAYAD, Damian SAL Y ROSAS CELI, Antoine BRUYERE, L2EP, Centrale Lille Institute, France; Fredy POIRIER, VEES, Valeo, France

2023002318	<p>DC fast chargers for electric vehicles: Portuguese solution for energy metering and billing issues</p> <p>Paulo G. Pereirinha, Electrical Eng. Dep. , Polytechnic of Coimbra – ISEC, Portugal; INESC Coimbra, APVE, Portugal; Luís Bernardo, CTE 85, Measuring Equip. for Electrical and Electromagnetic Quantities, Portugal; Nuno F. Costa, R&D, EFACEC, Portugal; Pedro Silva, Department of Electrical and Renewable Energy, ENSE - National Entity for the Energy Sector, Portugal; José Bigares, Infrastructure and Networks Directorate, ERSE - Energy Services Regulatory Authority, Portugal; Luís F. Ribeiro, Departamento de Metrologia, IPQ - Portuguese Inst. of Quality Caparica, Portugal; Gonçalo Ferreira, Unidade de Gestão Operacional de Normalização, IPQ - Portuguese Inst. of Quality, Portugal; Vitor Ferreira, Paulo Rodrigues, Software R&D, i charging, Portugal; António Matos, LABELEC, EDP, Portugal; Pedro Santos, Tecnologia e Sistemas, MOBI.E, Portugal</p>
2023001984	<p>Development of a Equivalent Impedance Network Reproducing the Impedance of Electric Vehicles During Active DC Charging</p> <p>Sebastian Dr. Jeschke, Marcel Olbrich, Michael Kleinen, Joerg Baerenfaenger, R&D, EMC Test NRW GmbH, Germany</p>
2023001999	<p>Characterization of Multiple Integrated Pad Geometries for in-Wheel EV IPT Applications</p> <p>Miguel Torres, ISEC-DEE, Polytechnic Institute of Coimbra, Portugal; DEEC, Instituto de Telecomunicacoes, Portugal; Isidro Ribeiro, André Mendes, Valter Costa, Emanuel Marques, DEEC, University of Coimbra, Portugal; DEEC, Instituto de Telecomunicacoes, Portugal; Marina Perdigão, ISEC - DEE, Polytechnic Institute of Coimbra, Portugal; Coimbra, Instituto de Telecomunicacoes, Portugal</p>
2023002325	<p>Electric Vehicle Charging Management in Household Photovoltaic Grid-tied Installations</p> <p>Marco Silva, João P. Trovão, DEE, Polytechnic Institute of Coimbra, Coimbra Institute of Engineering, Portugal; ESP, INESC-Coimbra, Portugal; Filipe Cardoso, Department of Informatics and Quantitative Methods, Polytechnic Institute of Santarem - ESG, Portugal; ESP, INESC-Coimbra, Portugal; José Rosado, DEIS, Polytechnic Institute of Coimbra, Coimbra Institute of Engineering, Portugal; ESP, INESC-Coimbra, Portugal</p>
Session 14, RT4-1	Co-Chairs: Mauro Salazar (Eindhoven University of Technology, Netherlands) & Giancarlo Storti Gajani (Politecnico di Milano, Italy)
2023002098	<p>Generic Modeling Approach for FPGA-Based Real-Time Simulations of Electric Machines</p> <p>Stefan Geng, Fabian Prochotta, Martin Aust, Electromobility and Electric Drives, dSPACE GmbH, Germany</p>
2023002245	<p>Time-optimal Design and Control of Electric Race Cars Equipped with Multi-speed Transmissions</p> <p>Camiel Cartignij, Mauro Salazar, Mechanical Engineering, Eindhoven University of Technology, Netherlands</p>
2023002143	<p>Energy management in Pontryagin’s framework for hybrid tractors during agricultural operations</p> <p>Stefano Radrizzani, Giulio Panzani, Lorenzo Brecciaroli, Sergio M. Savaresi, Dipartimento di Elettronica, Informazione e Bioingegneria, Politecnico di Milano, Italy</p>
2023002190	<p>Optimal shifting command control for two-speed Transmission Electric Vehicle</p> <p>Liyue Yang, Dohyun Park, Jaekwang Jung, Namwook Kim, Department of Mechanical Engineering, Hanyang University, South Korea; Heeyun Lee, Department of Mechanical Engineering, Dankook University, South Korea</p>
2023002071	<p>Experimental Model Identification of a Pure Electric Vehicle Using Standard Dynamometer Testing</p> <p>Ahmed E. Sharkawy, Ahmed M. Ali, Mostafa Sh. Asfoor, Mostafa I. Yacoub, Automotive Engineering Department, Military Technical College, Egypt</p>
2023002189	<p>Energy Efficiency Enhancement Through Adaptive Navigation for a Fuel-Cell Hybrid Self-Guided Vehicle</p>

Massinissa GRABA, Ali Amamou, Souso Kelouwani, Karem Benchikha, Bilel Allani, Kodjo Agbossou, Hydrogen Research Insitute, Université du Québec à Trois-Rivières, Canada

Session 15, RT1-3 **Co-Chairs: Marzio Barresi (Politecnico di Milano, Italy) & Jose Vuelvas (Pontificia Universidad Javeriana, Colombia)**

- 2023001981 **Modelling, parameters identification and SOC estimation used for BMS solutions of ROMBAT LFP battery technology**
Ruba Mircea, Sebastian Ursache, Paula Serban, Claudia Martis, Claudiu Oprea, Electrical Machines and Drives , Technical University of Cluj-Napoca, Romania; Mihai Dit, RND, ROMBAT, Romania
- 2023001923 **Simulation of the thermal behavior of NMC module under different electrical scenarios**
Ali Abbas, LICIT-ECO7, Gustave Eiffel University, ENTPE, France; S2ET, ESTACA, France; Nassim RIZOUG, S2ET, ESTACA, France; Rochdi TRIGUI, LICIT-ECO7, Gustave Eiffel University, ENTPE, France; Eduardo REDONDO-IGLESIAS, LICIT-ECO7, Gustave Eiffel University, ENTPE, France; Serge PELISSIER, LICIT-ECO7, Gustave Eiffel University, ENTPE, France
- 2023002022 **Robust and adaptive online State-of-Health and State-of-Charge estimation of Li-ion battery cell**
Vincent HEIRIES, Institute of Innovation on New Energies, CEA, France
- 2023002119 **A Battery Pack Balancing Control Strategy Considering Maximizing the Available Capacity of a Battery Pack**
Siwen Chen, Shengshi Qiu, School of Automation, Nanjing University of Science and Technology, China; Di Wang, State Grid HarbinPower Supply Company, State Grid Harbin Power Supply Company, China; Kai Song, School of Electrical Engineering and Automation, Harbin Institute of Technology, China; Jinlei Sun, School of Automation, Nanjing University of Science and Technology, China; State Grid Electric Power Research Institute, State Grid Electric Power Research Institute, China; Jinda Zhu, State Grid Electric Power Research Institute, State Grid Electric Power Research Institute, China
- 2023002006 **An online application of edge-cloud computing for lithium-ion battery with SOC estimation**
Joelton Deonei Gotz, João Pedro dos Reis Mendes, José Rodolfo Galvão, Fernanda Cristina Correa, Milton Borsato, Graduate Program in Electrical Engineering (PPGEE), Federal Technological University of Parana, Brazil; Emilson Ribeiro Viana, Graduate Program in Physics and Astronomy (PPGFA), Federal Technological University of Parana, Brazil
- 2023002072 **A SOC Estimation Method for Internal Short Circuit Battery based on EKF-FFRLS Algorithm**
Siwen Chen, Saihan Chen, Shengshi Qiu, Jinlei Sun, School of Automation, Nanjing University of Science and Technology, China; Chao Wu, Jilei Ye, School of Energy Science and Engineering, Nanjing TECH University, China; Chang Liu, State Grid Harbin Power Supply Company, State Grid Harbin Power Supply Company, China; Chuanyu Sun, School of Electrical Engineering and Automation, Harbin Institute of Technology, China

END OF DAY 1: 06:00 PM