

SAVE THE DATE

3rd INTERNATIONAL
SYMPOSIUM ON
ELECTROMOBILITY
ISEM 2024



DAY 1

18TH, September 2024

Industry Day

ID ZOOM:

879 9621 5356

**Venue: Congress Centre
(upper floor)**

8:00	Registry
8:30	Opening Ceremony
9:00	Keynote presentation by Javier Valadez COO Mexico - Corporate & Government Affairs / CSR at PACCAR
10:00	Panel: Driving the Future: The Transition to Electromobility
12:00	Presentation Research Group of Mobility
13:00	Lunch time
14:00	Parallel Workshop Keysight
14:00	Keynote presentation by Santiago Arango, Sales Rep. Mexico Hexagon
15:00	Panel: The Crucial Role of Semiconductors in the Smart Mobility Revolution
16:00	Keynote presentation by Vladimir Garcia, Battery materials Engineering at Clarios
17:30	Closure - Cocktail





8:00	Registry	
8:30	Keynote presentation by Daniel Velazquez - Automotive Systems and Applications Engineer from NXP	
9:30	Paper parallel presentation sessions 1 y 2	FESTO Workshop
10:50	Coffee break	
11:10	Keynote presentation by Vanesa Rueda Senior Hardware Engineer, PEM Motion.	
10:30	Paper parallel presentation sessions 3 y 4	
13:10	Lunch time	
14:10	Keynote presentation by Francisco Cabeza President, Mexican Association for the Promotion of Electric Vehicles (AMIVE).	
15:10	Paper parallel presentation sessions 5 y 6	FESTO Workshop
16:10	Coffee break	
16:30	Keynote presentation by Dr. Prof. Brij Singh IEEE Fellow, Electrification R&D Manager and John Deere Fellow	
17:30	Closure Day 2	
19:00	Gala Dinner	

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Venue: Congress Centre
(upper floor)

DAY 3 20TH, September 2024

ID ZOOM:
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8:00	Registry
8:30	Keynote presentation by Enrique Gómez Interior Cabin Door Trim Engineering Manager, General Motors Mexico.
9:30	Paper parallel presentation sessions 7 y 8
9:30	Parallel Workshop Keysight
10:50	Coffee Break
11:10	Keynote by Angelo Bonfitto Department of Mechanical and Aerospace Engineering (DIMEAS) , Mechatronics Laboratory (LIM) , Politecnico di Torino
12:10	Closure



general motors



Details of parallel sessions for the presentation of scientific papers

Session 1 19th September 9:30 - 10:50 hrs

ID ZOOM:

Chairman: . Ana Lidia Martínez

879 9621 5356

Co-Chairman: Riccardo Cespi

1. Implementation of a Peak-Current-Control for a Buck-Boost Converter using as a battery balancer.

César David Tellez Uribe, Reyna Karina Salgado Cristóbal, Nancy Mondragón Escamilla, Ismael Araujo-Vargas, José Francisco Villegas Alcaraz , Samuel Pérez Rodríguez.

2. Interleaved improved super-boost converter for fuel-cell vehicle power system.

Enrique Garza Arias, Jesús Elías Valdez Resendiz, Julio César Rosas Caro, Edgar Daniel Silva Vera, Daniel Guillén Aparicio.

3. Double PI-PBC for a Fuel Cell System with a Hybrid Energy Storage System.

Carlo A. Beltran, Luis Díaz, Rafael Cisneros, Martinez P. Raymundo, Gerardo Escobar, Diego Langarica-Córdoba.

4. Analysis of the SPS Modulation Technique for Bidirectional Dual Active Bridge Converter in Electric Vehicles.

Jesús Eduardo Pedraza Barrón, Pedro Martín García Vite, Crescencio García Güendulain, Luis Fortino Cisneros Sinencio, Rafael Castillo Gutiérrez, Liliana Elizabeth Arvizu Rodríguez.

ID ZOOM:

Session 2 19th September 9:30 - 10:50 hrs

843 5844 4169

Co-Chairman: Juan Carlos Tudón Martínez

1. Simulation-based methodology for the design of a Lineal Induction Motor for a transport application.

Angel Campoy , Carlos Renato Vazquez.

2. 1 powertrain.

Irving S. Aguilar-Zamorate, Raffaele Manca, Stefano Favelli, Eugenio Tramacere, Renato Galluzzi , Andrea Tonoli.

3. Comparison of four liquid-cooling strategies for in-wheel motors.

Irving S. Aguilar-Zamorate, Marius Pakštys, Renato Galluzzi, Luis Ibarra, Nicola Amati

4. Hammerstein Models for Rotor and Winding Temperature Estimation of a Permanent Magnet Synchronous Motor.

Erick Axel Martinez Ríos, Irving S. Aguilar-Zamorate, Saulius Pakštys, Renato Galluzzi, Nicola Amati.

Details of parallel sessions for the presentation of scientific papers

Session 3 19th September 12:10 - 13:10 hrs

ID ZOOM:
879 9621 5356

Chairman: Hillary Rodríguez

Co-Chairman: Luis Miguel Ibarra

1.A 11.2 kWh LiPo battery hybrid balancer converter: implementation and trade-off.

Reyna Karina Salgado Cristóbal, César David Téllez Uribe, Ismael Araujo-Vargas, Nancy Mondragón Escamilla.

2.Isolated DC-DC converter with hysteresis-based single phase-shift control.

Pedro Martín García Vite, Jesús Eduardo Pedraza Barrón, Jose J. Chavez, Francisca Hernández Angel , Ana Lidia Martínez Salazar

3.Improved Interleaved Boost Converter with Reduced Inductors.

Jesus E. Valdez-Resendiz, Edgar D. Silva-Vera, Julio C. Rosas Caro , Fernando Davalos Hernandez

Session 4 19th September 12:10 - 13:10 hrs

ID ZOOM:
843 5844 4169

Chairman: Glendy Contreras

1.Real energy efficiency of electric and diesel buses fleet.

Jose I Huertas, Oscar S. Serrano-Guevara, Franco Quezada , Felipe Vasquez

2.Comparative Study of CO2 Emissions from the use of Electric and Hybrid Vehicles in 4 Different Countries.

Andrea Sánchez , Julian Peña

3.E-scooter driving behaviour analysis using BEAM data: a case study from Brisbane Australia.

Dominic Tjong, Adriana-Simona Mihaita, Tuo Mao, Khaled Saleh , Luis Carlos Félix Herrán

Details of parallel sessions for the presentation of scientific papers

Session 5 19th September 15:10 - 16:10 hrs

ID ZOOM:

879 9621 5356

Chairman: Reyna Karina Salgado Cristóbal

Co-Chairman: Carlos Renato Vázquez

1. Multi-objective optimization methodology to select electric motor and battery pack using real drive-cycles.

Pedro S. González-Rodríguez, Jorge Lozoya-Santos, Hugo G Gonzalez-Hernandez

Julio Sebastian De La Trinidad-Rendon, L.C. Félix-Herrán , Juan Carlos Tudon

Martinez

2. Dynamic model of a transformable wheel

Junior Antonio Barahona, José Luis Ordoñez-Avila , Héctor Moreno

3. Overview on angular position sensing for powertrain applications

Raul Morazan, Renato Galluzzi , Luis Ibarra

Session 6 19th September 15:10 - 16:10 hrs

ID ZOOM:

843 5844 4169

Chairman: Erick Axel Martínez Ríos

Co-Chairman: Rita Fuentes

1. Persistently exciting direct data driven control.

Wang Jianhong , Wang Jiale

2. A passivity-based controller for a battery charger using a high reduction ratio step-down converter.

Christopher Jesus Rodriguez-Cortes, Panfilo Raymundo Martinez-Rodriguez,

Diego Langerica-Córdoba, Gerardo Escobar, Jose M. Sosa

3. Core Loss Estimation of a 180 A, 150 kHz Planar Inductor for a High-Density DC-DC Converter.

Hillary Rodríguez Félix, Ismael Araujo Vargas, Brenda Angélica Herrera Aparicio,

José Francisco Villegas Alcaraz, Maria Elena Noriega González, Nancy

Mondragón Escamilla



Details of parallel sessions for the presentation of scientific papers

Session 7 20th September 9:30 - 10:50 hrs

Chairman: Panfilo Raymundo Martinez-Rodriguez

Co-Chairman: Alejandro Guajardo

ID ZOOM:

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1. Volume pile estimation in irregular terrains via Drones: A Case Study in the Metal Industry.

Leonardo Sanchez, Victor Chapela, Kristel Murillo , Riccardo Cespi

2. Gradient algorithm for coalitional distributed control scheme.

Wang Jianhong, Wu Haitao

3. Bio-inspired explainable neuromorphic controller for path tracking and obstacle evasion using an array of Hindmarsh-Rose neurons.

Julio S. De La Trinidad-Rendon, Jorge A. Reyes-Avedaño , Hugo G. Gonzalez-Hernandez

4. Collision-Cones-Based Nonlinear-Controller for Obstacle-Avoidance with Improved Control Gains.

Riccardo Cespi, Stefano Di Gennaro

Session 8 20th September 9:30 - 10:50 hrs

Chairman: Pedro Martín García Vite

Co-Chairman: Armando Román

ID ZOOM:

843 5844 4169

1. Optimal data driven controller tuning analysis.

Wang Jianhong , Ouyang Qing

2. Numerical Error Analysis in a PWM-Driven Real-Time Simulator: a Buck Converter Case Study.

Luis Ibarra, Jesús Camacho , Pedro Ponce

3. Noise-Vibration-Harshness analysis for electric machines.

Esteban Luzardo, Renato Galluzzi, Gerardo Escobar , Javier Juarez

4. Performance Analysis of Field Oriented Control Under Parametric Variations of a PMSM.

Angel Romero Laguna, Luis Ibarra, Renato Galluzzi



Tecnológico de Monterrey
Escuela de Ingeniería y Ciencias



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