esars itec 2024 EUROPE

Naples (Italy)

26th-29th November 2024

7ª edition of the ESARS-ITEC Europe International Conference on

Electrical Systems for Aircraft, Railway, Ship Propulsion and Road Vehicles & International Transportation Electrification Conference

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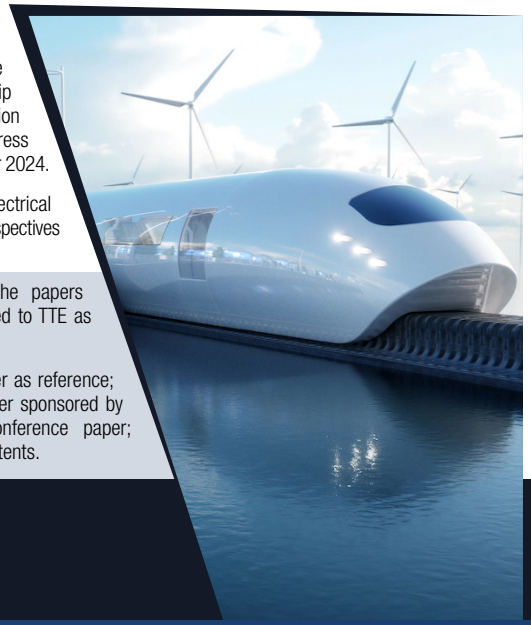
Call for papers

The Organizing Commitee is pleased to announce the 7th edition of the Internaonal Conference on Electrical Systems for Aircraft, Railway, Ship Propulsion and Road Vehicles (ESARS) and IEEE International Transportation Electrification Conference (ITEC) 2024, which will be held at the Congress Center of the University of Naples Federico II in Naples, Italy, 26-29 November 2024.

The aim of the Conference is to promote a forum where people in the electrical transportation systems community can share their experiences and bring perspectives about present and future challenges.

The ESARS-ITEC 2024 conference announces that the 30% of the papers recommanded by the conference committee are eligible to be submitted to TTE as post-conference paper, with following requirement:

1) the paper submitted to TTE should correctly cite the conference paper as reference;
2) the cover letter should mention explicitly it is a post-conference paper sponsored by PELS and summarize the additional contents compared with conference paper;
3) the submitted paper to TTE should have at least 30% to 50% new contents.



Important dates

Paper digest	**April, 30th, 2024**
Notification of acceptance	**June, 15th, 2024**
Full Paper Submission	**July, 15th, 2024**

Main topics of ESARS-ITEC 2024 include but are not limited to:

AIRCRAFT ELECTRICAL SYSTEMS

- **Advanced concepts and technologies to enable the all- electric aircraft**
  - Embedded Systems
  - Electromechanical actuators
  - Electrical auxiliary systems
  - New storage system
- **Power generation and distribution**
  - New sources of aircraft main propulsive power
  - Onboard electrical systems architectures
  - Onboard energy management
- **Electrical Drives and Power Systems**
  - Design of Motors and their Control
  - Fault Diagnostics
  - Power Systems Control and Stability
  - Reliability

SHIPBOARD ELECTRICAL SYSTEMS

- **Electrical propulsion**
  - Converters and Drives
  - All electric and hybrid ships
- **Integrated power systems**
  - System integration
  - Storage systems
  - Modeling, simulation and design methodologies
- **Power Generation**
  - Power System Control
  - Stability and quality
  - Electrical generators
  - Design methodologies
- **Ship functional safety**
  - Reliability and dependability
  - Reconfigurability, diagnostics
- **Electric solutions for improving efficiency**
  - Actuators
  - On-Board energy management

RAILWAY AND ROLLING STOCK ELECTRICAL SYSTEMS

- **Power Train**
  - Innovative converter and motor topologies
  - Onboard Energy management
- **Power Supply Systems**
  - Substations
  - Wayside storage system
  - Overhead systems and Conductor rail systems
  - Energy management
- **Autonomous and dual mode vehicle**
  - New energy sources and storage systems
  - Electric-Hybrid power trains
  - Multi winding transformer and rectifier
- **Modeling, simulation and design methods**
  - Complex Systems
  - Load flow, optimization method design and control
- • Electromagnetic compatibility
  - Safety and security systems
  - Railway signaling and interoperability systems
  - Light railways vehicles for urban mobility
  - Metro and underground urban railways systems

ROAD VEHICLES ELECTRICAL SYSTEMS

- **Onboard energy sources and storage systems: design, control and integration**
  - Energy management and control strategies
  - Device integration, testing and validation
  - Thermal management
- **Powertrain systems**
  - Electric propulsion systems
  - Traction power converters
  - Powertrain testing and validation
  - Traction electric motor design
  - Powertrain control strategies
  - Range and weight optimization
- **Auxiliary systems**
  - Switching power supplies
  - Power steering
  - Ancillary services
- **Vehicle environment**
  - EMI/EMC in the vehicle environment
  - Modelling, simulation, vehicle-level design methods and tools
  - Safety and reliability
  - Tools and methods for onboard diagnostic

INFRASTRUCTURES FOR E-MOBILITY & H-MOBILITY

- **E-mobility**
  - Grid interface technologies
  - Microgrids for charging station facilities
  - Hyper-charge stations
  - Ultrafast charging station (UFCS) and impact on the grid
  - Vehicle-to-grid (V2G), vehicle-to-infrastructure (V2I), and vehicle-to-home (V2H) interfaces
  - Energy Storage Systems and RES integration
  - DC & AC Distributed architectures
  - Smart EV charging scheduling
  - Electrification of heavy-duty and off-road vehicles
- **H-mobility**
  - Novel hydrogen storage technologies
  - Fuel cell converters
  - RES integration for green hydrogen production
  - Sensors, actuators, and monitoring systems for hydrogen plants

ENERGY STORAGE AND FUEL CELL SYSTEMS

- Modeling
  - Thermal management
  - Interface power converters
  - Batery Management Systems
  - SOC and SOH identification methods
  - Hybrid energy storage systems

BATTERY CHARGERS: WIRELESS, FAST, AND ULTRA-FAST

- On-board/off-board smart charging infrastructures
  - Isolated and nonisolated charger
  - Stationary and dynamic wireless charging in roadways
  - Design and control issues
  - Partial power processing architectures
  - Integrated powertrain converter and batery charger

AI AND SOFTWARE SYSTEMS FOR TRANSPORTATION ELECTRIFICATION

Special Session

The conference will include Special Sessions on highly specialized topic areas reporting technical trends and breakthroughs within the scope of the conference. Special Sessions are organized at the initiative of one or more individuals, who must adhere to specific procedures published on the conference website.

Paper Submission

The working language of the conference is English. Submit the full paper using the following layout: up to 6 full pages, including

Authors are requested to prepare the manuscripts in the IEEE two-column format, using the template available in the ESARS 2024 Website and to translate it in PDF using the IEEE PDF eXpressTM facility. No other format in the submission and in the final version can be accepted.

Accepted and presented papers will be published in the conference proceedings, included in the IEEE Xplore on-line digital library and indexed by EI Compendex database.

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