



ESARS 2012

2nd International Conference on ELECTRICAL SYSTEMS FOR AIRCRAFT RAILWAY AND SHIP PROPULSION

Bologna, Italy, October 16-18, 2012

Technical
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Suggested Topics

T1 – AIRCRAFT ELECTRICAL APPLICATIONS

T1.1 Advanced concepts and technologies to enable the all-electric aircraft

- Embedded Systems,
- Electromechanical actuators,
- Electrical auxiliary systems,
- New storage systems,

T1.2 Power generation and distribution

- New sources of aircraft main propulsive power,
- On-board electrical systems (Electrical generators, et al.),
- On-Board energy management

T1.3 Electrical Drives and Power Systems

- Design of Motors and their Control
- Fault Diagnostics,
- Power Systems Control and Stability,
- Reliability,

T2 – SHIPBOARD ELECTRICAL APPLICATIONS

T2.1 Electrical propulsion

- Power converters and Drives,
- All electric ships,
- Hybrid ships

T2.3 Integrated power systems

- System integration,
- Storage systems for shipboard,
- Modeling, simulation and design methodologies

T2.4 Power Generation

- Power System Control,
- Stability and quality,
- Topologies of electrical generators,
- Design methodologies

T2.5 Large all electric ships and pleasure crafts applications

- cruise, ferry, oil & gas, piping, naval,
- yachts, mega-yachts, sailing boats

T2.6 Ship functional safety

- reliability and dependability,
- re-configurability, diagnostics

T2.7 Electric solutions for improving efficiency

- Actuators,
- On-Board energy management

T3 – ELECTRICAL RAILWAY TRACTION SYSTEMS

T3.1 Power Train

- Innovative power converter, motor topologies and devices (multilevel modular power converter, electronic medium frequency transformer, PM Brushless Drives, Synchronous motors, et al.),
- On board Energy management (traction and energy saving control)

T3.2 Power Supply Systems

- Substations (regenerative systems, Converter topologies),
- Wayside storage system (flywheel, supercapacitor, et al.)
- Overhead systems and Conductor rail systems (system using non-standard voltages, three-phase systems, et al.),
- Energy management system

T3.3 Autonomous and dual mode vehicle

- New energy sources and storage systems,
- Electric-Hybrid power trains
- Multi winding-Transformer and rectifier

T3.4 Modeling, simulation and design methods

- Complex Systems (substation, grid and trains),
- Load flow, optimization method design and control

The Organizing Committee is pleased to announce the second edition of the International Conference on Electrical Systems for Aircraft, Railway and Ship Propulsion - ESARS 2012, which will be held in Bologna - Italy- from 16 to 18 October 2012. The aim of the Conference is to promote a Forum, where people involved with electrical systems problems may compare their experiences and present solutions found for actual and further requirements.

Papers Submission

The working language of the conference is English. Submit the **full paper** using the following layout. Limitation to 6 full pages, including paper title, authors and affiliations, figures and references (maximum size 2MB). Authors are requested to prepare the manuscripts in the IEEE two-column format, using the template available in the ESARS'12 Website and to translate it in PDF using the IEEE PDF eXpress™ 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.

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 at the conference website.

Authors Deadlines

Interested authors should note the following deadline dates:

Submission of Special Sessions proposals: **April 20th, 2012**

Submission of provisional full-paper: **April 20th, 2012**

(regular and special sessions)

Notification of acceptance to final program: **June 1st, 2012**

Submission of Final Manuscript: **June 15th, 2012**

Conference: **October 16th -18th, 2012**

Information

Details on the Symposium programme, social events will be published in the 2nd announcement and will also be available on the website <http://www.esars.org>. For all further information please contact the Conference Secretariat at mchiandone@units.it

T3.5 Electromagnetic compatibility

T3.6 Safety and security systems

T3.7 Railway signaling and interoperability systems

T4 -ELECTRICAL SYSTEMS FOR URBAN MOBILITY

- Public transport (bus, light railway vehicles, metro),
- Energy supply infrastructure (quick charging systems, et al.),
- Energy efficiency and saving in public transport

T5 - ELECTRICAL SYSTEMS IN ROAD VEHICLES

- Electric propulsion systems for electrified vehicles,
- Control strategies in hybrid vehicles,
- Power converters for electrified vehicles,
- On-Board energy management: generation (e.g. fuel cells), storage, components, systems and control,
- EMC related phenomena,
- Modeling, simulation and design methods, reliability issues



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About the venue

ESARS'12 International Conference will be held on Bologna, at San Giovanni in Monte palace. Bologna called the City of Porticoes is one of the most favorite tourist cities because of its appeal for being a town famous for its rich past.

Bologna was founded by the Etruscans with the name Felsina (ca. 534 BC) and became a Roman colony in 189 B.C. In the 11th century Bologna began to grow again as a free Comune, joining the Lombard League against Frederick Barbarossa in 1164. After being crushed in the Battle of Zappolino by the Modenese in 1325, Bologna began to decay and asked the protection of the Pope at the beginning of the 14th century. The University of Bologna, founded in 1088, is the oldest existing university in Europe.

Nowadays, Bologna is considered an "University city" with lavish porticoes walkways and squares, fine historic buildings, and an interesting medieval center. Bologna is very well known for its beauty and great cuisine. Bologna is less than an hour inland from the east coast and about halfway between Florence and Milan.



European PhD School: Power Electronics for Electrical Machine and Energy Control PEeMEC Award

The Organizing Committee is pleased to announce a special award, reserved to participants to the 13th edition of the "European PhD School: Power Electronics for Electrical Machine and Energy Control". The 13th edition of the PEeMEC School is focused on "transportation": for this reason, PEeMEC joins ESARS in 2012!

Rules for PEeMEC 2012 Award participation

- **Who can participate:** all participants to the 13th edition of the European Ph.D. School PEeMEC (ID registration number will be required for submission of papers);
- **Submission:** a full paper of 6 A4-pages has to be submitted within **April 15th, 2012**. At least one co-author has to be registered to the PhD School.
- **Selection:** 6 papers will be selected by an international committee;
- **Awards:** authors of selected papers will be invited to attend the ESARS Conference 2012. Registration fee will be waived. Besides, during the ESARS social dinner, winners will be recognized with an award plate and certificate.
- **Other accepted papers:** the international committee will also select up to 20 additional papers among those that have passed the preliminary selection process. Authors of these papers will also be invited to the ESARS 2012 conference with a special reduction on the registration fee.

More information will be available on the ESARS website and on the European PhD School website (www.phd-school.org).

Conference Manager

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