

POSTER SESSIONS

COMMUNICATIONS

- F. Cano & C. Benavente** *Iterative Bit & Power Allocation in MIMO Systems*
P. Cheng *Envelope amplifier based on multiphase buck converter with MTC for high bandwidth application*
J.A. Moreno *DC/DC buck converter serial-parallel linear-assited for RF envelope tracking*
D. Tena *High efficiency EER transmitter*
J. Torres *Adaptive Digital Predistorter for EER Power Amplifiers*

CONTROL TECHNIQUES

- Y. Bouvier** *45kW Full Bridge Converter with Discontinuous Primary Current for High Efficiency Airborne Application*
Y. Bouvier & U. Borović *Comparison of 10kW Isolated Rectifier for Aircraft Application*
A. Rodríguez* *Control Strategy of a Three-Port Power Electronic System Using a Parallel Connection of a PFC Boost and a Dual Active Bridge*
S. Zhao *Design of Energy Control Method for Three-Phase Buck-Type Rectifier with Very Demanding Load Steps*

MODELING, SIMULATION AND OPTIMIZATION OF POWER CIRCUITS

- J. Cortés** *Analysis and comparison of ripple-based control techniques*
J. Cortés *Optimization of integrated racetrack inductors for PowerSoc*
D. Čučak *Physical modeling and Optimization of GaN HEMTs for HF applications*
F.A. Holguín *Simplified capacitive model for center-tapped multi-windings transformers*
D. Martel *Improvements on the design process of magnetic components using PExprt*
A. Espino & J. Martínez *Modelling and Simulation of a DC nano grid*
V. Šviković *Optimization and Analysis of PwrSoC Buck Converter with integrated passives for Automotive Application*

POWER TOPOLOGIES

- U. Borović & S. Zhao** *Three-phase boost rectifier control for aircraft application with variable line frequency and pulsating load*
J.M. Fernández *Redundancy And Protection System for the Cold Superconducting Magnets at XFEL*
A. Francés *High-current and low-voltage step-down converter to supply cold superconducting magnets*
D. González & M. Arias* *Conceiving a New Type of AC/DC HB-LED Driver for Retrofit Lamps Based on a Loss-Free Resistor AB-Rectifier: An Isolated Three Phase Rectifier for Aircraft Applications*
J.M. Molina *Isolated Swiss-Forward Rectifier for Aircraft Applications*
M.A. Silva *Inductor Optimization for Multiphase Interleaved Synchronous Bidirectional Boost Converter Working in Discontinuous Conduction Mode with Zero Voltage Switching*
A. Vázquez*

RE-CONFIGURABILITY & EVOLVABLE HARDWARE

- B. López** *Power-aware multiobjective evolvable hardware system on FPGA*
J. Mora & Á. Gallego *Opportunities of Dynamic Scalability of Evolvable Hardware Solutions*
A. Rodriguez *Use of Dynamic and Partial Reconfiguration in Multikernel Multithread Parallelized Many-Core Accelerator Schemes*
J. Valverde *A Bus Architecture for Dynamically Trading-Off Among Performance, Energy Consumption and Dependability in Cyber Physical Systems*
F. Veljković *Towards Improved Fault Tolerance by means of Dynamic and Partial Reconfiguration in Space Applications*

SPECIFIC APPLICATIONS

- A. Bravo** *Configurable Power Inverter for Magnetic Hyperthermia*
A. Gutiérrez *Inductor Optimization for a Hyperthermia Inverter*
J.C. Hidalgo & E. Benavente *Three phase inverter for motor control of an air exchanger*
C.A. López *Control Technique to Increase the Efficiency in Wireless Power Transfer Systems*
D. Meneses *Multiphase Parallel Interleaved and Primary-Parallel Secondary-Series Forward Micro-Inverter Comparison*
M.R. Ramos *Cryonext: Influence of electrical fields on water nucleation*
V. Šviković & F. Pascual *Electronic Circuit to Protect a Brushless Synchronous Machine*

WIRELESS SENSOR NETWORKS

- D. Aledo** *Hardware implementations of Artificial Neural Networks for image encoding*
A. García *Android-Based Support Tool for in-field Positioning of Wireless Sensor Nodes*
M.V. Maigler *Wireless Optical Sensor for Virus Detection*
G.N. Mujica *Design and Development of an Assistant Tool for Deploying, Debugging and Maintaining Wireless Sensor Networks: The DPCM Project*
D. Pérez *Self-learning embedded intelligent system based on an architecture of dynamic and adaptive decision tree*
E. Quesada & M.V. Maigler *Wireless Sensor Networks for Greening Food Processing*
M. Villaverde *Cooperative learning model based on multiagent architecture for embedded intelligence systems*
R. Zamacola *Implementation of an AODV-based routing protocol for Wireless Sensor Networks using an IEEE 802.15.4 communication layer*

* UNIVERSIDAD DE OVIEDO



Special Session on Smart Grids

Topics

- Control Techniques
- Modeling, simulation and optimization of power circuits
- Power Topologies
- Re-configurability & Evolvable Hardware
- Wireless Sensor Networks
- Communications
- Specific applications



TECHNICAL SESSIONS

Registration 15:30-16:00

Opening Session 16:00-16:30

Roberto Prieto (UPM, Vicepresident of Research)
Ignacio Romero (ETSII, Vicedirector of Research)
José A. Cobos (CEI, Director)
Óscar García (CEI, Vicedirector)

Panel debate 16:30-18:45

SMART GRIDS

Session chair: J. Uceda (CEI)

Blanca Losada
Milan Prodanović
Pedro Rodríguez
Josep Guerrero

Gas Natural Fenosa
IMDEA Energía
Abengoa
University of Aalborg, Denmark

Visit CEI facilities. Poster Session 19:00-20:30

The poster session will be held in the main lab of Centro de Electrónica Industrial (CEI). You will have the opportunity to discuss with the researchers and to see the latest CEI outcomes. Beverages and food will be available during the session.

Find the list of the posters in the last page.

Oral Session (I) 9:00-11:15

Session Chairman: **Miroslav Vasić**

Physical modeling and Optimization of GaN HEMTs for HF applications **D. Čučak**
Achieving Higher Efficiency in Industrial Inkjet Printing **E. Boere (APEX Microtechnology)**
Power-aware multiobjective evolvable hardware system on FPGA **B. López**
Improvements on the design process of magnetic components using PExprt **F. Holguín**
Label-free biosensors based on Biophotonic sensing Cells (BICELLS) for In-Vitro Diagnostic **M. Holgado (ETSII-UPM)**
Optimization and Analysis of PwrSoC Buck Converter with integrated passives for Automotive Application **V. Šviković**

COFFEE BREAK 11:15-12:00

Oral Session (II) 12:00-14:15

Session Chairman: **Jorge Portilla**

Equalization system for battery cells based on the wave-trap concept **M. Arias (Univ. Oviedo)**
45kW Full Bridge Converter with Discontinuous Primary Current for High Efficiency Airborne Application **Y. Bouvier**
Hardware implementations of Artificial Neural Networks for image encoding **D. Aledo**
Adaptive Digital Predistorter for EER Power Amplifiers **J. Torres**
More electric aircraft **L. Segura (AIRBUS)**
Design and Development of an Assistant Tool for Deploying, Debugging and Maintaining Wireless Sensor Networks: The DPCM Project **G.N. Mujica**

At 14:15 h. photo group at eh ETSII Main entrance

COCKTAIL will be served in the Sala de los Retratos at 14:30 h.

