

ECE – 590 I

POWER & ENERGY SYSTEMS SEMINAR

Monday, January 23, 2017, 4:00 – 5:00 p.m., Room 2017, ECEB

Power Electronics @ CEI-UPM

The Industrial Council and the Little Box Challenge



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Chair of the “Industrial Council @ CEI”

Abstract

Power Electronics is a key enabler for Energy efficiency. The talk includes an overview of different projects and activities developed for Industry partners at CEI. It includes RF amplifiers, PV panels, wireless power transfer, ripple based control in IVR for Digital Systems and AC-DC & DC-DC converters generating high voltage bus (270VDC) to reduce weight and fuel consumption in modern Aircrafts. The recent improvements in GaN power switches are illustrated through the participation of the team CEI@UPM in the “Little Box Challenge” (Google and IEEE-PELS). Finally, the “Industrial Council @ CEI” is described.

Biography

José A. Cobos is a Full Professor at the Universidad Politécnica de Madrid and Chair of the “Industrial Council @ CEI”. He lectures Electronics with special focus on Fundamentals, Analog, and Power Electronics, for Undergraduate, Master and Doctoral students.

His contributions are focused in the field of power supply systems for telecom, aerospace, industrial, automotive and medical applications. His research interests include energy efficiency in digital systems and RF amplifiers, magnetic components, piezoelectric transformers, transcutaneous energy transfer and dynamic power management. He also works in the generation of EM fields for water supercooling and biomedical effects. He advised over 40 Master Thesis and 14 Doctoral dissertations, published over 50 journal papers and over 300 technical papers (h=40, >6000 citations) and holds 8 patents. He conducted professional seminars and tutorials in USA, UK, Austria, Germany, Italy, Switzerland, Syria, Mexico and Macedonia.

In 2006, he launched the “Centro de Electrónica Industrial, CEI-UPM”, a University research center leading a strong industrial program in power electronics and digital systems. In 2016 he launched the “Industrial Council @ CEI” to coordinate Education & Research with Industry, and provide scholarships to CEI students, sponsored by Airbus S&D – CRISA, Thales Alenia Space, Bosch, Premo, Huawei, Indra, Ansys, Viesca, Airbus and Apex. He is RCC Fellow at Harvard University and recipient of a Fulbright grant to work on Energy Efficiency, at UC Berkeley.