

Electrical Machines and Power Electronics Group (EMPEG) DIEES University of Catania ITALY



CePTIT

The Electrical Machines and Power Electronics Group of the Department of Electrical Electronic and Systems Engineering includes 6 full time scientists with 4 Professors and 2 Post-Graduates, 5 technicians and administrators, and several Ph.D. and graduate students. Since 1975 the research activities are devoted to Power Electronics and Energy conversion systems, dealing with power electronic converters, electrical machines and drives, and their application on industrial processes, conversion from renewable energies, automotive and traction, home appliances. Since 2000 the Center for Promotion and Transferring of Innovation Technology (CePTIT) has been created, where the EMPEG activities are concentrated.

EMPEG and CePTIT are headed by Prof. Ing. Alfio Consoli.

Key Research Fields & Competence Areas:

- **Power Electronic Devices**
Modelling and characterization of Power devices and Drivers
- **Power Electronics**
DC/DC, DC/AC Converters, PFC, Photovoltaic and Fuel Cells Applications, Converters for Home Appliances
- **Electrical Drives**
Induction and Synchronous Motor Drives, PM Motor Drives, Sensorless Control
- **Electrical Machines**
Modelling and Simulation of standard and special machines, Finite Element Analysis

Institute Highlights:

- EMC Test Laboratory
- Test Benches for Electrical Drives (up to 50kW) with Measurement and Analysis tools
- Fuel Cells Test Bench
- Analytic and Numeric Simulation tools for Machines, Drives, Converters, and Devices

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