DEIB

ELECTRICAL ENGINEERING RESEARCH AREA

ANGELO MAURIZIO BRAMBILLA
CHAIR OF THE ELECTRICAL ENGINEERING RESEARCH AREA
angelo.brambilla@polimi.it

Over the past 50 years an easy and increasing access to the electrical energy has been radically altering our society and the way we live. Its characteristic of being easily and efficiently transmitted in different regions, extremely transformable in other energy forms, clean and cheap has promoted its success. Our society has a deep dependence on the "products" by the "Electrical Engineering", even thought we are not always aware of. This growth is not at an end yet and it influences several areas such as for example transportation (partial and/or fully electric vehicles), production and distribution of electrical energy (renewable sources: solar, wind), "smart"' appliances, industrial automation. In this context the research area of the Electrical Engineering has two main goals:

- investigation and solutions of theoretical and experimental problems related to electrical phenomena;
- promotion of the knowledge and advancements in the Electrical Engineering.

The area is deeply interdisciplinary and is mainly focused on theoretical aspects and applications to the fields of electromagnetism and more broadly in all the aspects connected to the Electrical Engineering. The area promotes the advancement and the exploitation of sustainable mobility, industrial electronics for energy conversion, signal processing, measurement, diagnostic methods, EMC and EMI analysis to ensure an efficient and innovative management of power systems.

The development and advancement of the Electrical Engineering degree programs are a vital component for both the social and industrial progress of the field. The research area offers excellent educational opportunities, strongly supports the Bachelor and the Master programs in Electrical Engineering and offers a PhD course in Electrical Engineering of excellent International reputation.

The research lines in the Electrical Engineering research area are: Circuits and Systems, Electrical and Electronic Measurements, Electromagnetic compatibility, Electric Power Systems and Power Electronics, Optical Measurements and laser instrumentation.

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