



Power Electronics Research and Problem-Based Learning Education at Polytechnic of Turin, Italy

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◆报告摘要:

This report will systematically introduce the cutting-edge research progress in power electronics at the Polytechnic of Turin, Italy, with a focus on its distinctive Problem-Based Learning (PBL) educational model. In the research domain, the power electronics group at Polytechnic of Turin has long been dedicated to high-efficiency power converters, electric drives, wide-bandgap semiconductor applications, and renewable energy grid integration, achieving internationally recognized results and actively promoting industrial technology transfer. In education, the university deeply integrates PBL concepts into its power electronics and electrical engineering curricula, using real-world engineering cases and team-based projects to cultivate students' interdisciplinary thinking, practical skills, and innovation capabilities. The report will also present specific teaching examples to demonstrate how the PBL model effectively enhances students' ability to solve complex engineering problems, while providing valuable insights for industry-university collaborative talent development. This presentation offers both academic depth and pedagogical inspiration, making it suitable for researchers, engineers, and educators in the field of power electronics.

◆报告人简介:



Gianmario Pellegrino教授是意大利都灵理工大学交叉学科研究中心的创始成员。Pellegrino教授在电机设计领域造诣深厚，其核心研究兴趣聚焦于同步电机的设计与先进控制技术，他发起并领导了开源平台SyR-e的开发，该平台用于电机与传动系统设计，通过工业合作持续得到增强与验证，并在全球范围内被广泛采用。他在国际学术界享有盛誉，是第8届Nagamori Awards奖励获得者。目前担任PCIM Europe顾问委员会委员，并兼任都灵理工大学负责技术转化的副校长 (Adjunct Vice Rector)。



Francesco Iannuzzo教授现任IEEE PELS Adcom委员 (Member-at-Large) 以及IEEE IAS电力电子器件与元件委员会主席。他曾担任2018年ESREF会议、2022年IWIPP会议以及2023年EPE-ECCE Europe会议的大会主席。他曾担任IEEE JOURNAL OF EMERGING AND SELECTED TOPICS IN POWER ELECTRONICS和Open Journal of Power Electronics的副主编，目前担任IAS OJ-IA的副主编。他的主要研究领域为电力电子设备 (特别是IGBT和SiC模块) 的可靠性、实验测试及失效建模。他已发表近300篇学术论文，合著4部专著。

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