

PhD in Electrical, Electronic and Communication Engineering

Research Title: Innovative Power Electronics

Funded by	Prima Electro Spa Strada Carignano 48/2 Moncalieri (Torino)
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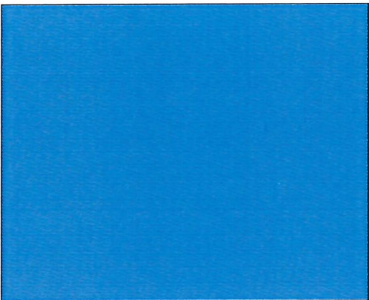
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Contact	Politecnico di Torino, Energy Department (https://www.polito.it/ricerca/dipartimenti/denerg/) Prima Electro Spa (http://www.primaelectro.com/)
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Context of the research activity	<p>Power Electronics is a key enabling technology for modern and more efficient power conversion in strategic fields of application, such as transportation electrification, energy conversion and advanced manufacturing. Strategic applications are, for example, electric vehicles powertrains and battery chargers, more electric aircrafts, energy production and harvesting from renewables, smart grids, and power supply for laser technology in additive manufacturing. Power electronics can lead the innovation in such fields by becoming smaller, faster, more reliable and capable of managing higher power levels.</p> <p>The research work will be carried out in a multidisciplinary environment inside the Power Electronics Innovation Center of Politecnico di Torino under the supervision of Prima Electro Spa.</p>
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Objectives	The main goal of the proposed PhD grant is the design, the control and the implementation of innovative power electronic converters for industrial applications and energy.
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Skills and competencies for the development of the activity	The research activity needs the following skills: <ul style="list-style-type: none">• Excellent background in static power conversion, including power electronic devices, converter topologies and control techniques.• Hardware skills in design and testing of analog and power
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- Very good knowledge of simulation software for power electronics
- Teamwork mindset and ability to work in multi-disciplinary environment
- Good logical and analysis capability, including good self-organizational mindset