



Fig. 1: Test stands of the Chair of Electrical Machines and Drives for research and education

The Chair of Electrical Machines and Drives is a part of the Institute of Electrical Power Engineering which was founded in 1894. The students taught in the institute belong to the study branches "Electrical Power Engineering" and "Mechatronics". The research work of the chair is to make substantial contributions to the fundamental and applied research for efficient energy transducer systems, generators and electrical drives. In addition count both linear and rotating machines and line-side and motors-side inverters and their control (Fig. 1).

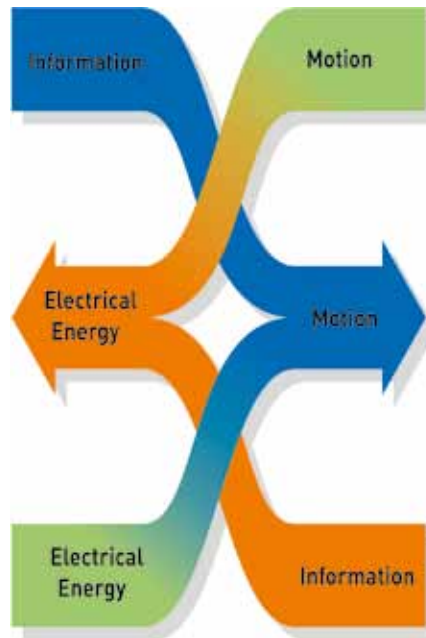


Fig. 2: Focuses of research

Key Research Fields & Competence Areas (Fig. 2)

- Modeling, design and optimization of transducer systems
- Magnet bearing technology, direct drives and mechatronic drive solutions
- Renewable electromechanical transducers, especially for wind energy plants
- Motor and drive systems in hybrid and electric cars
- Cooling systems for electrical machines
- Converters, industrial electronics for variable speed drive systems and generators



Fig. 3: Power converter interferences lab

Laboratories / Equipment (Fig. 3)

- Laboratory of machines and drives with separate power supply up to 100 kW, voltage 3 x 400V, 3 x 600 V, sinusoidal ac-three-phase mains up to 500 Hz
- Universal test stands for converter-fed machines, measuring and testing equipment for machines, transformers and measuring transformers
- 7 Research labs (400m²)
- 3 Labs for teaching and practical training (112m²)
- 1 PC-Pool

Teaching

- Courses lead to the Dipl.-Ing. certificate or to the Master-degree
- PhD students

Member of Staff

Scientific staff:	5
Non-scientific staff:	2 + (2)
Scientific tutorial assistant:	1
Scientific staff (third party funds):	17
PhD students:	2
External PhD students:	10
Tutorial assistants:	5
Diplomates:	12
Students in seminar projects:	10
Trainees:	20