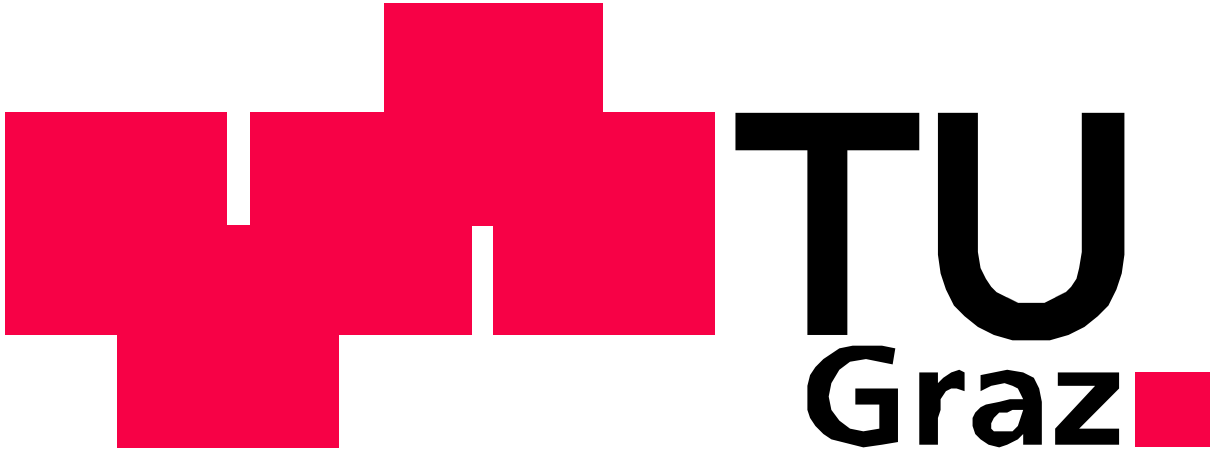


Graz University of Technology

Its Faculties

- Architecture
- Civil Engineering
- Mechanical Engineering and Economics
- Electrical Engineering and Information Technology
- (Technical) Mathematics and (Technical) Physics
- (Technical) Chemistry, Process Engineering and Biotechnology
- Informatics

…from which numerous degree programs in these fields of study are offered.

Students and Staff

Students

- Total: 13.237 (WS 2011)
- New admissions: 1.936 (WS 2011)
- Graduations: 1.562 (academic year 2010/11)

Personal (31.12.2011)

- Total: 2.256
- Scientific: 1.402, out of which 779 third party funded.
- Nonscientific staff: 854, out of which 189 third party funded.

Faculty of Electric Engineering and Information Technology

Students (Winter Semester 2011)

- Total: 2.694 + 272 PhD students
- New admissions: 513 + 26 PhD students
- Graduations: 122 + 5 PhD students

18 Institutes

Third party funding 2011: 9,2 mio €.

Faculty of Electric Engineering and Information Technology

Currently 4 degree programs

- Electrical engineering
- Biomedical engineering
- Telematics
- Electrical engineering and audio technology

Certificate

- E^3S – Energy Efficient Electronic Systems

A bit of History

- 1963-1985: Prof. Aichholzer.
- 1986-2005: Prof. Rentmeister.
- 2005-2007: Tit. A.o. Prof. Köfler.
- 2007-2010: Prof. Fickert (Institute of Electric Power Systems, provisional head EAM).
- March 2010: Relocation of offices from “Neue Technik” to “Inffeldgründe”.
- April 2010: Prof. Mütze.
- September 2011: Relocation of laboratory

Our People (30th June 2012)

- 1 Univ. Professor
- 3 Scientific staff with doctoral degree, permanent positions
- 2 University assistants (DI/MS)
- 5 Project assistants (DI/MS), one joining in October
- 1 Secretary
- 4 Technicians (electrician, mechanic, IT support)
- Approximately 15 student assistants

Research Areas

Four areas

- Drives
- Machines
- Control (drives)
- Power electronics

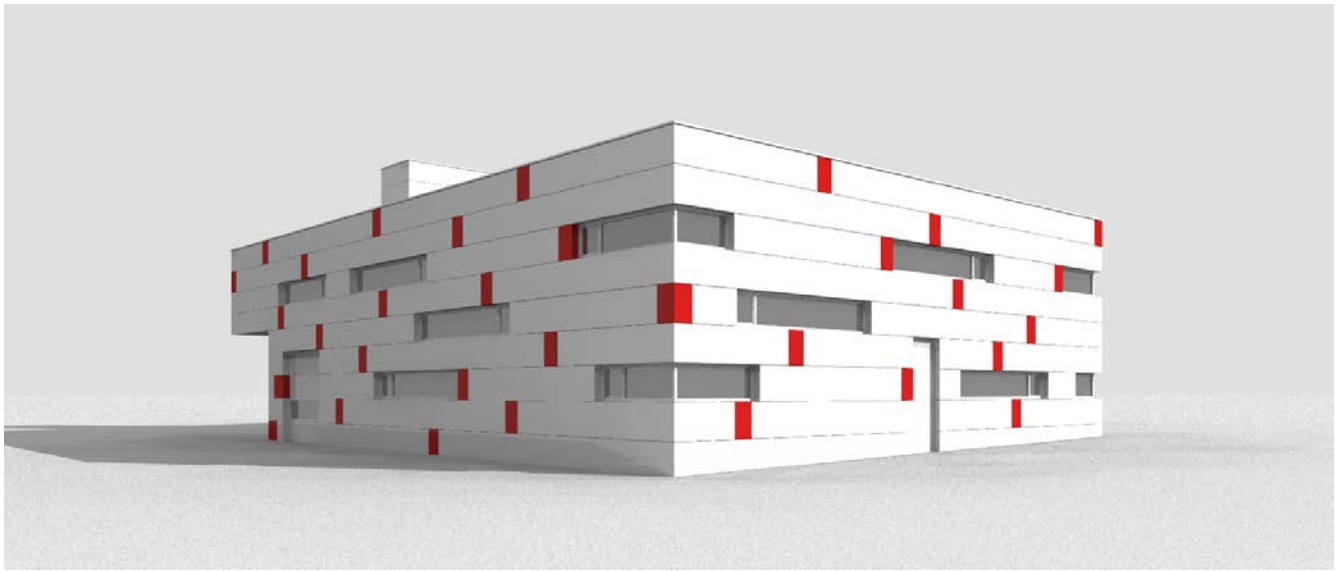
E.g.

- Motor-converter interaction, system integration…
- Machine analysis, design, optimization, and testing…
- Modeling and parameterization, vibration and resonances…
- Topologies, modeling, overload capability…

More in poster sessions

Our new laboratory

- Some 300 m^2 for research and teaching in the drives, machines, and power electronics fields.
- Additional 60 m^2 for elementary lab.



Facilities

- 690 V_{ac}, 500 kVA
- 400 V_{ac}, 500 kVA
- 230 V_{ac}, 50 kVA
- 127 V_{ac}, 50 kVA
- 0-600 V_{ac}, 60 A variable transformer
- 2 additional bus bars AC

- 0-1000 V_{dc}|480 A_{dc} 0-870 V_{dc}|580 A_{dc} variable, 300 kW, short time 560 kW
- 120 V_{dc}, 240 V_{dc}
- 1 additional bus bar DC

- Appropriate measurement and modeling equipment.

More in lab tour

….in the classroom

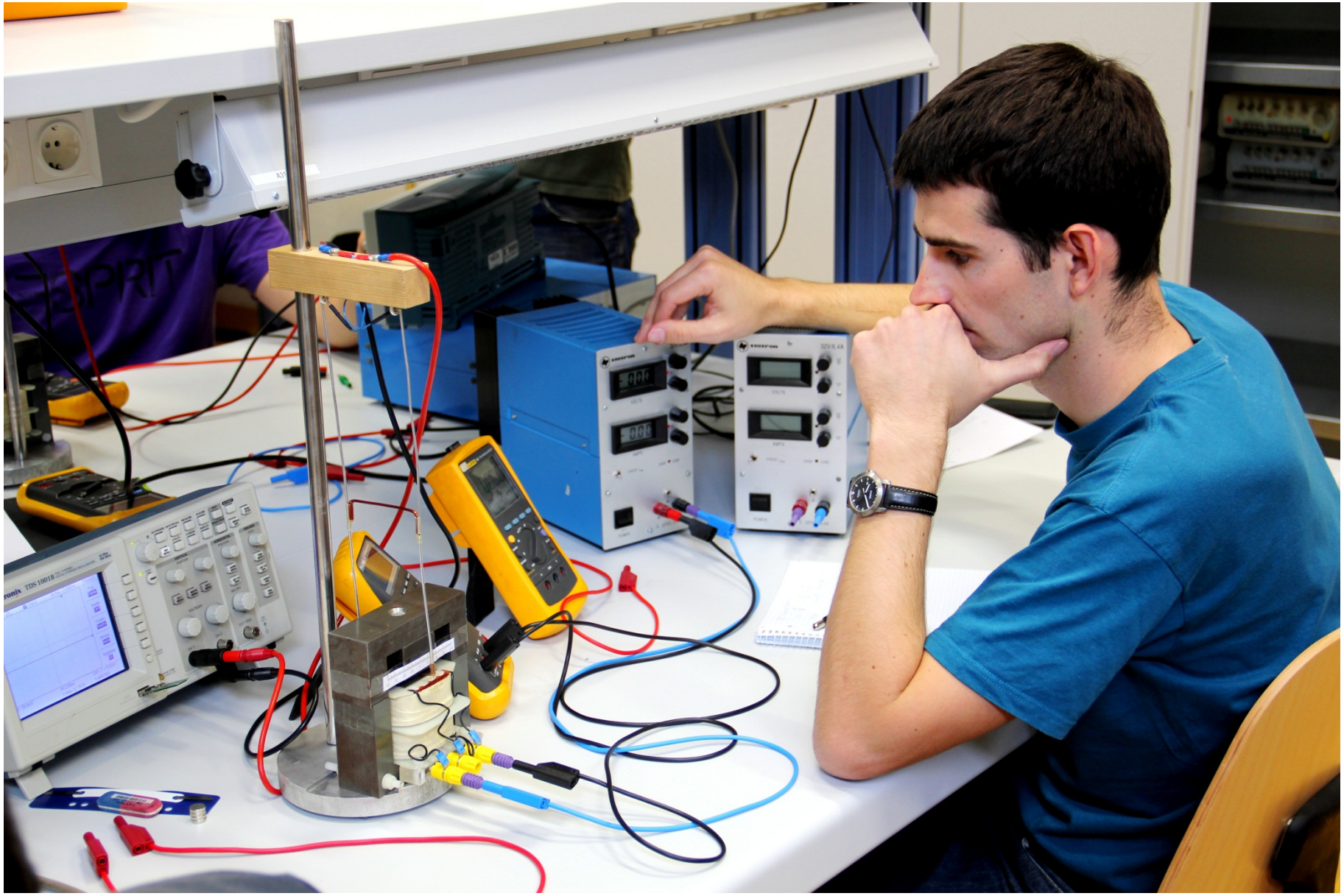
Reorganization of the modules offered – 1/4

Bachelor degree programs

1st Year

431.008 INTRODUCTION TO ELECTRICAL ENGINEERING, LABORATORY

431.009 TECHNICAL REPORTS AND PRESENTATIONS




PS 3048 B
RoHS
TU GRAZ
INVENTAR 0091618
PS 3048 B
RoHS
INVENTAR 0091616
WARNING
TDS1002
C010465
TU GRAZ
INVENTAR 0002735

Reorganization of the modules offered – 2/4

2nd Year

431.004 INTRODUCTION TO ELECTRIC MACHINES

3rd Year

431.007 INTRODUCTION TO ELECTRIC DRIVES

431.020 ELECTRIC MACHINES FOR ELECTRIC DRIVES

431.005 ELECTRIC MACHINES AND DRIVES, LABORATORY

431.013 PROJECT (EE/IT)

431.265 POWER ENGINEERING FOR BIOMEDICAL ENGINEERS (SHARED)


DC VARIABEL

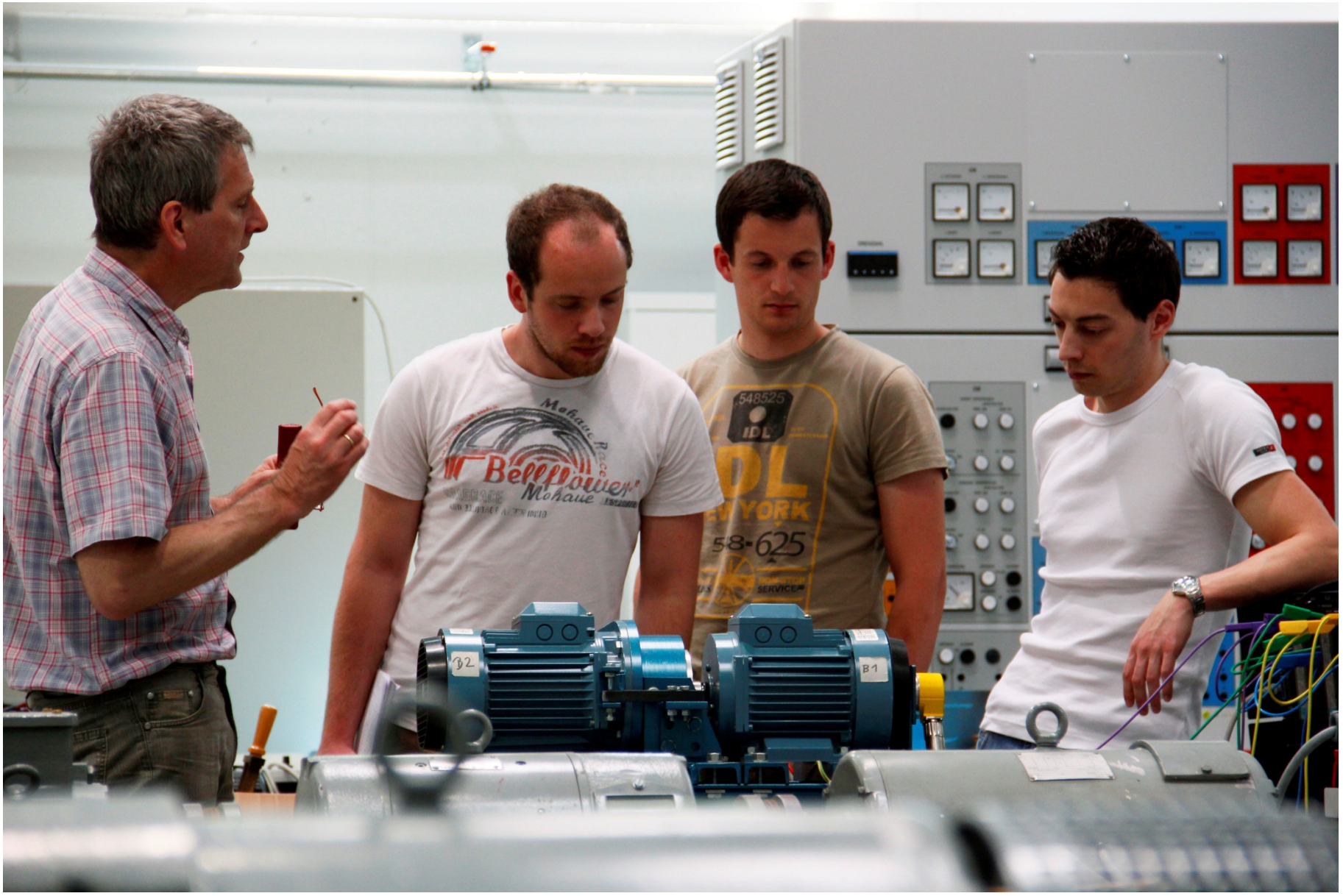
Reorganization of the modules offered – 3/4

Master degree programs

4th Year

431.123 ELECTRIC DRIVES AND MACHINES, LABORATORY
431.120 ELECTRIC MACHINES FOR POWER ENGINEERING
431.122 POWER ELECTRONICS

431.311 CONTROL OF ELECTRIC DRIVES
431.312 CONTROL OF ELECTRIC DRIVES, LABORATORY
431.307 MODELING AND SIMULATION OF ELECTRIC DRIVES
431.308 MODELING AND SIMULATION OF ELECTRIC DRIVES, LAB


548525
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B2
B1

Reorganization of the modules offered – 4/4

431.160 DESIGN OF ELECTRIC MACHINES
431.161 DESIGN OF ELECTRIC MACHINES, PROJECT
431.171 FRACTIONAL HORSEPOWER MACHINES

431.313 SELECTED TOPICS 1
2012: DRUBEL (LARGE MACHINES)
2013: SCHMÜLLING: (ELECTRO MOBILITY)
431.314 SELECTED TOPICS 2
2012: BOUSCAYROL (EMR)

431.320 POWER ELECTRONICS DEVICES – *DEBOY*

431.012 MASTER PROJECT

….poster sessions

Poster Session 1

Performance comparison of voltage-source inverters for use with distributed energy systems

A method for electrically isolated voltage measurement in PWM inverters

Efficiency determination of standard asynchronous machines from start-up data

Effects of insulated and non-insulated damper windings in turbo generator with massive rotors at non-steady-state operation

Modeling eddy currents losses in the clamping plate of large synchronous generators

TU Graz Racing Team

Poster Session 2a

Supporting unbalanced grids with induction machine drives without intermitted energy storage

Modeling, analysis and design optimization of a brushless dc motor

Consideration of steel degradation due to manufacturing processes

On the conceptual design of special-purpose vehicles

Analysis of a CCM totem-pole PFC rectifier using normally off SIC JFET cascade configuration under peak current control

Computation of rotating force waves in skewed induction machines using multi-slice models

Poster Session 2b

Measurement of stator core magnetic degradation during the manufacturing process

Thousands of hits: on inverter-induced bearing currents, related work, and the literature

On the common mode voltage in multilevel multiphase single- and doubled-ended diode-clamped voltage source inverter systems

Optimal pump, motor and converter selection tool for variable speed applications

Electric drives and machines, laboratory