SPECIALIZATION
Microprocessor Control Systems in Electrical Engineering

Electrical Engineering
Faculty of Control, Robotics & Electrical Engineering

MICROPROCESSOR CONTROL SYSTEMS IN ELECTRICAL ENGINEERING

ZEiS
Zakład Energoelektroniki i Sterowania

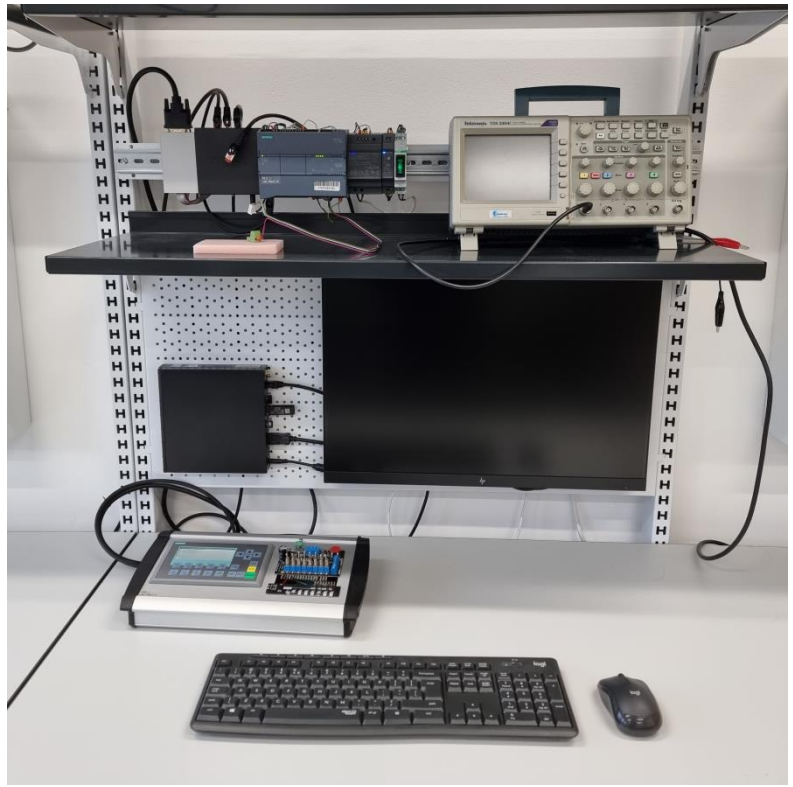
Supervisor:

Ph.D. D.Sc. Eng. Michał Gwóźdź, PUT Prof.

E-mail: michal.gwozdz@put.poznan.pl

Phone: +48 61 665 26 46

Address: Poznan, 3A Piotrowo Street, room 619



More informations:

www.iee.put.poznan.pl (Institute of Electrical Engineering and Industrial Electronics)

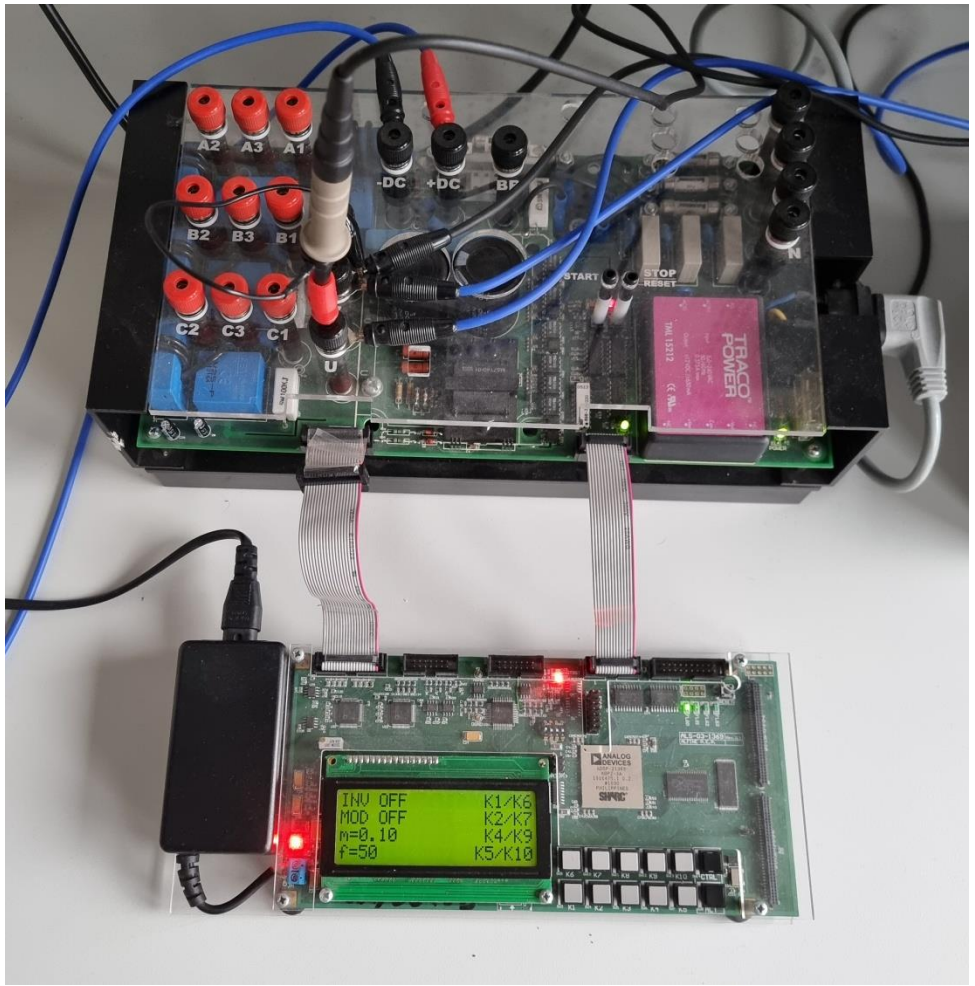
www.zeis.pl (Department of Power Electronics and Control)

SPECIALIZATION
Microprocessor Control Systems in Electrical Engineering

Electrical Engineering
Faculty of Control, Robotics & Electrical Engineering

General information:

- The specialty is concerned with the analysis, research, synthesis, design and implementation of electronic and power-electronic circuits and control systems for various purposes
- Operation of modern electronic and power-electronic systems, including those using: analog technology, classical microprocessor technology, specialized signal processors, programmable systems and PLCs
- Design of non-standard solutions of converter systems and their control systems - including RES
- Diagnostics of electronic and power electronic devices
- Students can expand their knowledge and conduct their own research work as part of the MICRO Student Scientific Club



SPECIALIZATION
Microprocessor Control Systems in Electrical Engineering

Electrical Engineering
Faculty of Control, Robotics & Electrical Engineering

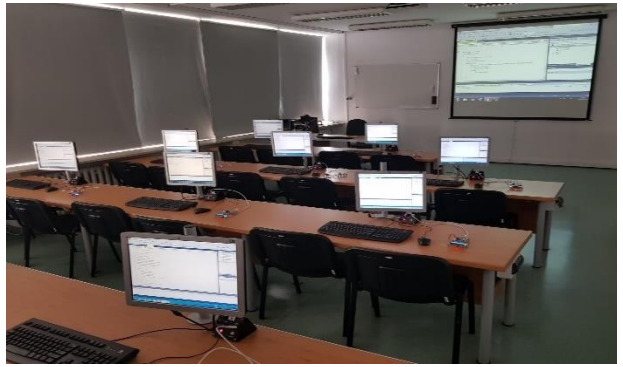
Subjects offered as part of the specialty:

Semester 1 :

- Control of power electronic systems

Semester 2:

- Control of power electronic systems
- Signal processors and embedded systems
- Graduate seminar



Semester 3:

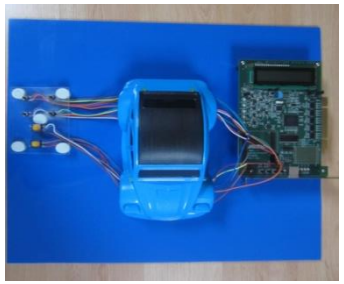
- Signal processors and embedded systems
- Internet of things
- Converter systems in RES
- Thesis seminar
- Preparation of the master's thesis

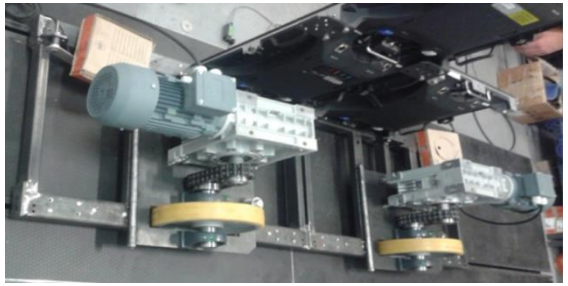
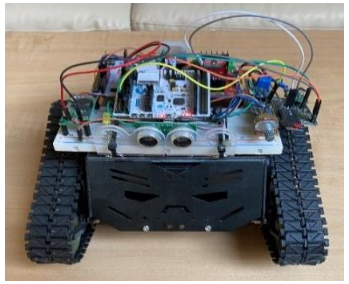
SPECIALIZATION
Microprocessor Control Systems in Electrical Engineering

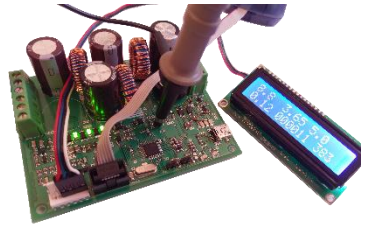
Electrical Engineering
Faculty of Control, Robotics & Electrical Engineering

Topics of the thesis in progress:

- Experimental model of an inspection robot
- Control of a power electronic voltage and current sources using neural networks
- Simulation model of a mini yacht power plant based on PV cells
- Experimental model of a power electronic converter, cooperating with a synchronous motor
- Model of a self-driving vehicle controlled by STM32 microcontroller
- Design and programming of control systems using PLC and PLD systems
- Testing of modern microprocessor-controlled power electronic systems using advanced digital control techniques
- Design, implementation and testing of electronic (analog and microprocessor) control systems





Employment opportunities after graduation:

- Kimball Electronics Poland
- Ministry of Energy
- Mobitum sp. z o.o.
- Exide
- Tales
- Safli
- Phoenix Contact
- Intrex sp. z o.o.
- Impact clear power technology
- Capgemini and many others

Additional information:

- Artificial intelligence (AI) implementation devices using NVIDIA Jetson
- Programming Microchip and STM processors using dedicated runtime systems
- Developing interests through participation in the Micro Student Research Club

- Cooperation with industry:

UPS for applications with special environmental exposures - including Li-ION battery module and BMS system

High power supply with output voltage backup after power failure and super capacitor module (16 F/ 60 V) with BMS system

Attention!

The choice of specialization takes place at the recruitment stage on the day of the qualifying exam.

The candidate indicates a maximum of three specialtizations, with the first one being the highest preference and the third one being the lowest.

Choosing your preferences does not mean being assigned to a selected specialization.

The final allocation will be made not only on the basis of the preferences indicated by the candidate, but also taking into account the ranking list determined according to the result of the qualifying exam, the specializations opened and the numerosity of the created groups.

Not every specialization has to be opened, it depends on the number of students admitted to the studies. The condition for starting a specialization is that at least 15 students are assigned to it.

Lists of assignments to specializations will be available on the faculty website 3 days before the start of the first semester of studies.