



## SMART MEASUREMENT SYSTEMS



**Supervisor:**

**Ph.D. D.Sc. Eng. Grzegorz Wiczyński, PUT Prof.**

E-mail: [grzegorz.wiczny@put.poznan.pl](mailto:grzegorz.wiczny@put.poznan.pl)

Phone: +48 61 665 26 39

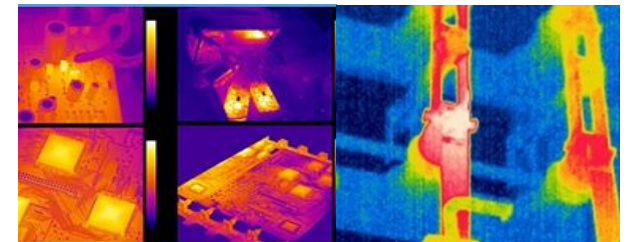
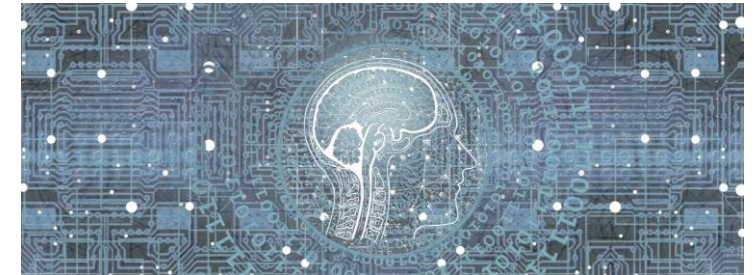
Address: Poznan, 3A Piotrowo Street, room 520

**More informations:**

[www.iee.put.poznan.pl](http://www.iee.put.poznan.pl) (Institute of Electrical Engineering and Electronics)

[zmets.put.poznan.pl](http://zmets.put.poznan.pl) (Department of Smart Measurement Systems)

[www.facebook.com/SystemyPomiarowe](https://www.facebook.com/SystemyPomiarowe) (Department of Smart Measurement Systems)





## SPECIALIZATION Smart Measurement Systems

Electrical Engineering  
Faculty of Control, Robotics & Electrical Engineering



### General information:

- Advanced **sensory systems**: modern measuring equipment, modular instrumentation, smart sensors in practical applications,
- **Smart signal processing**: practical use of advanced signal processing algorithms
- **Design**, creation and testing of analog and digital **electronic systems** (practical classes)
- **Advanced metering infrastructure** in power grids, power quality evaluation,
- **PLC S7-1200 controllers**, SCADA systems and microcontrollers in measurements and industrial automation
- Diagnostic and testing **measuring** devices and **systems** in industry and medicine
- **Thermal imaging** and its applications in industry and medicine



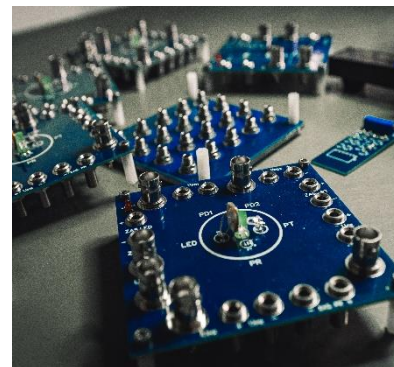
### Courses proposed in the specialization:

#### Semester 1:

- Electronic measuring systems

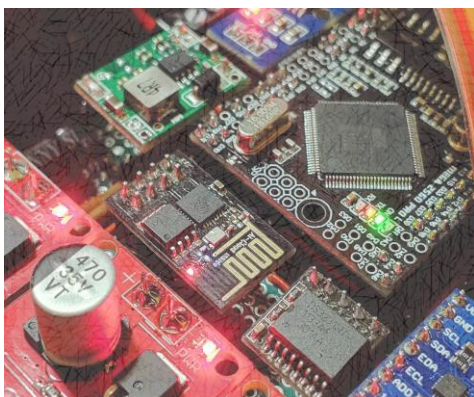
#### Semester 2:

- Smart Signal Processing
- Advanced sensory systems
- Diploma seminar



#### Semester 3:

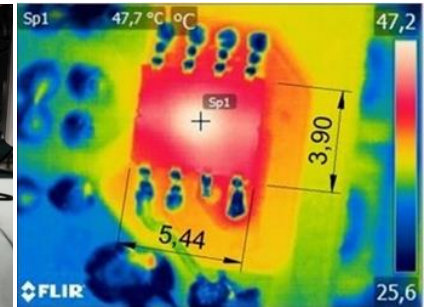
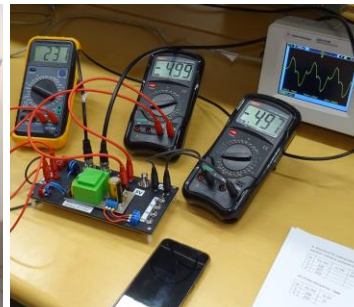
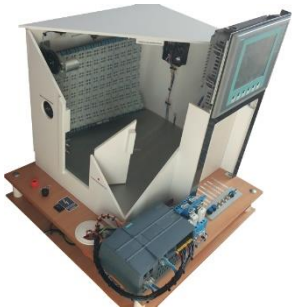
- Advanced metering infrastructure in power grids
- PLC controllers and SCADA in measurement and industrial automation
- Thermal imaging diagnostics
- Modern systems for the acquisition of measurement signals
- Diploma seminar
- Preparation of master's thesis





Topics of the diploma theses:

- PLC controllers application,
- Measurements of electrical and non-electrical quantities,
- Design, construction and testing of electronic systems,
- Testing sensors and measuring transducers,
- Power quality evaluation,
- Design and construction of computer measurement systems in industry and medicine,
- Assessment of inaccuracy of instrumentation and measuring devices
- Topics indicated by the student consistent with the activities of the Division (e.g. thermal imaging diagnostics)





## SPECIALIZATION Smart Measurement Systems

Electrical Engineering  
Faculty of Control, Robotics & Electrical Engineering



**ASTAT**



Volkswagen

**PHILIPS**

**Enea**

**Schröder**



### Employment opportunities after graduation:

- Departments of designing electrical and electronic devices,
- Control of measuring and control devices,
- Service of industrial and medical equipment,
- Maintenance departments,
- Laboratories, e.g. Central Office of Measures and Regional Offices of Measures, UDT, TUV SUD and many others,
- Electronic devices design departments,
- Production quality control (ISO/IEC)

See more at: [www.creef.put.poznan.pl](http://www.creef.put.poznan.pl)



## SPECIALIZATION Smart Measurement Systems

Electrical Engineering  
Faculty of Control, Robotics & Electrical Engineering



### Additional information:

- **Unique devices:** Thermal imaging cameras of different classes with wide-angle macro lenses, electronic circuit assembly stations, thermal chambers, high-end oscilloscopes with probes up to 3 GHz, precise power meters, AMI smart energy meters, power quality analyzers and calibrators.
- **Training and didactic trips:** Specialist Military Metrology Centre, GUM, Institute of Rail Vehicles, AERO POZNAŃ - Cirrus Training Center, Renex - electronics, Air Force Institute of Technology.
- **Science clubs:** Sensor - personal development, interesting group and individual projects.



See more at: [www.creef.put.poznan.pl](http://www.creef.put.poznan.pl)



## SPECIALIZATION Smart Measurement Systems

Electrical Engineering  
Faculty of Control, Robotics & Electrical Engineering



### 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 specializations, 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.