



Wrocław
University
of Science
and Technology

WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY



Faculty of Electronics (in reorganizing)



HR EXCELLENCE IN RESEARCH



Wrocław
University
of Science
and Technology

Poland, Wrocław



Wrocław the meeting PLACE

Wrocław University of Science and Technology



... years of tradition



Wrocław
University
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and Technology



Faculty of Electronics

Janiszewskiego Street 11/17

50-372 Wrocław

www.weka.pwr.edu.pl

History

The biggest faculty in Poland dealing with Information and Communication Technologies (ICT) including Control Engineering and Robotics and Electronics at the university and in Poland. The Faculty has over 60 years experience in education and scientific research.



Historical building - Prusa street, Wrocław

Faculty of Electronics

Electronics is one of few faculties in Poland which has the right to confer doctoral degrees in 4 disciplines:

❖ electronics



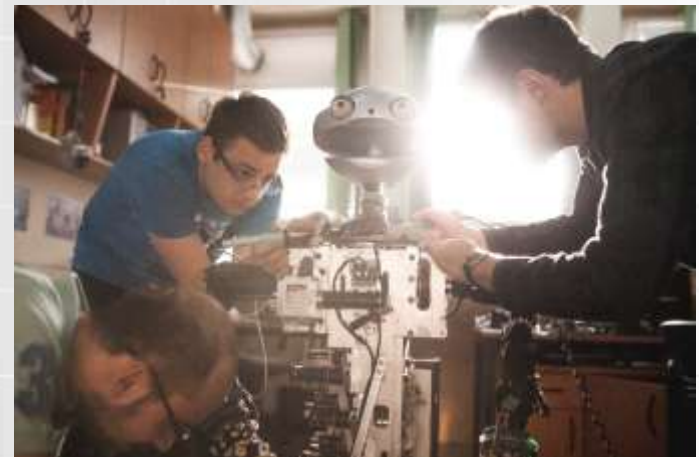
❖ computer science



❖ telecommunications



❖ control engineering and robotics



Courses of study

- ❖ Control Engineering and Robotics
- ❖ Computer Engineering
- ❖ Teleinformatics
- ❖ Electronics
- ❖ Electronic and Computer Engineering (1st level of studies – in English)
- ❖ Telecommunications
- ❖ Cybersecurity

Full-time Bachelor studies last 3.5 years (7 semesters)



Full-time Master studies last 1.5 year (3 semesters)



Study in English (master studies)

❖ Computer Engineering

- Advanced Informatics and Control
- Internet Engineering

❖ Control Engineering and Robotics

- Embedded Robotics

❖ Electronics

- Advanced Applied Electronics



Foreign students admission:

<http://admission.pwr.edu.pl/>

Specializations in English:

Specializations and fields of study in English:

- With a large number of laboratories and projects
- With good teaching facilities
- With great staff and atmosphere
- With excellent prospects for graduates!

You will find specific information on courses available in English and admission here:

https://rekrutacja.pwr.edu.pl/wp-content/uploads/2021/05/prospectus_RAKIETA_2021_www_v1.pdf

Internet Engineering

Unique thesis topics:

- Earth Surface modeling
- Automotive-Intelligent Cars
- Recognition:
 - faces, emotional state, gender



Basic groups of subjects:

- IT applications
- Electronic media in business and commerce
- Multimedia and Computer Visualisation

Contact: dariusz.caban@pwr.edu.pl

Advanced Applied Electronics

Practice-oriented subjects:

Preparation for work in companies

Preparation for work in research laboratories

Basic groups of subjects:

Analog and digital electronics

Optoelectronics

Signal processing

Programming

Contact: grzegorz.budzyn@pwr



Embedded Robotics

Unique thesis topics:

- Distributed search with swarm robots
- Testbed for multirotors control algorithms verification
- RAM memory monitoring in Linux-based

Basic groups of subjects:

- Low and high level control system
- Motion and task planning
- Human – robot interaction

Contact:

witold.paluszynski@pwr.edu.pl



Studies in English (Bachelor studies)

Electronic and Computer Engineering

This course will give students multidisciplinary knowledge of electronics and computer engineering. It will enable them to obtain theoretical and practical knowledge in designing applied electronic systems based on analogue and digital techniques as well as gaining expertise in microprocessors, programmable logic applications and signal processing. Graduate students will be able to continue second level study in the fields of Electrical Engineering, Computer Science, Automation and Robotics or Telecommunication, or other related fields.

Learning outcomes

- ❖ Students will acquire the experience necessary for a professional career in industry as well as in research units and universities.
- ❖ Establishment of cooperation with foreign centres in the educational process (double diploma), joint grants and publications, organisation of international conference



Reorganization

Adapting the structure to scientific disciplines

Starting from the new academic year 2021/22 English specialization and fields of study of the Electronics department will be taught in two separate departments:

Faculty of Information and Communication Technology

- Advanced Informatics and Control
- Internet Engineering

Faculty of Electronics, Photonics and Microsystems

- Embedded Robotics
- Advanced Applied Electronics
- Electronic and Computer Engineering

Certifications

Good quality of education is guaranteed by external evaluations and certificates of the following institutions:

- ❖ The State Accreditation Committee (PKA – now the Polish Accreditation Committee)
- ❖ The Accreditation Commission of Technical Universities (KAUT)



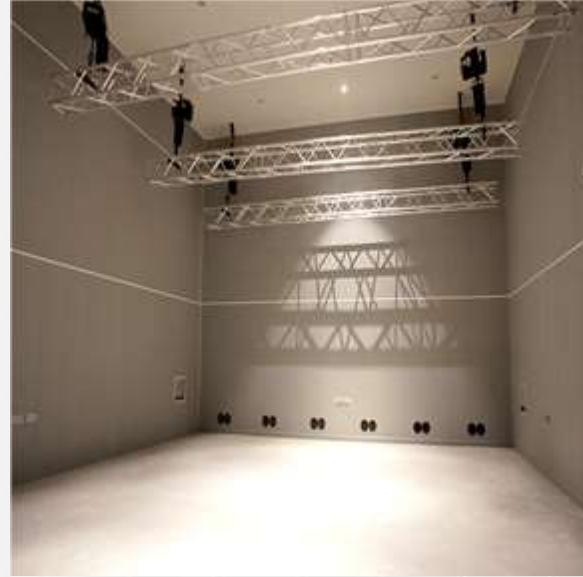
Research and education laboratories

There are about **60** research and education laboratories, including general computer laboratories and work-labs with specialist equipment.



Laboratories - examples

❖ Acoustics



Laboratories - examples

❖ Electromagnetic Compatibility

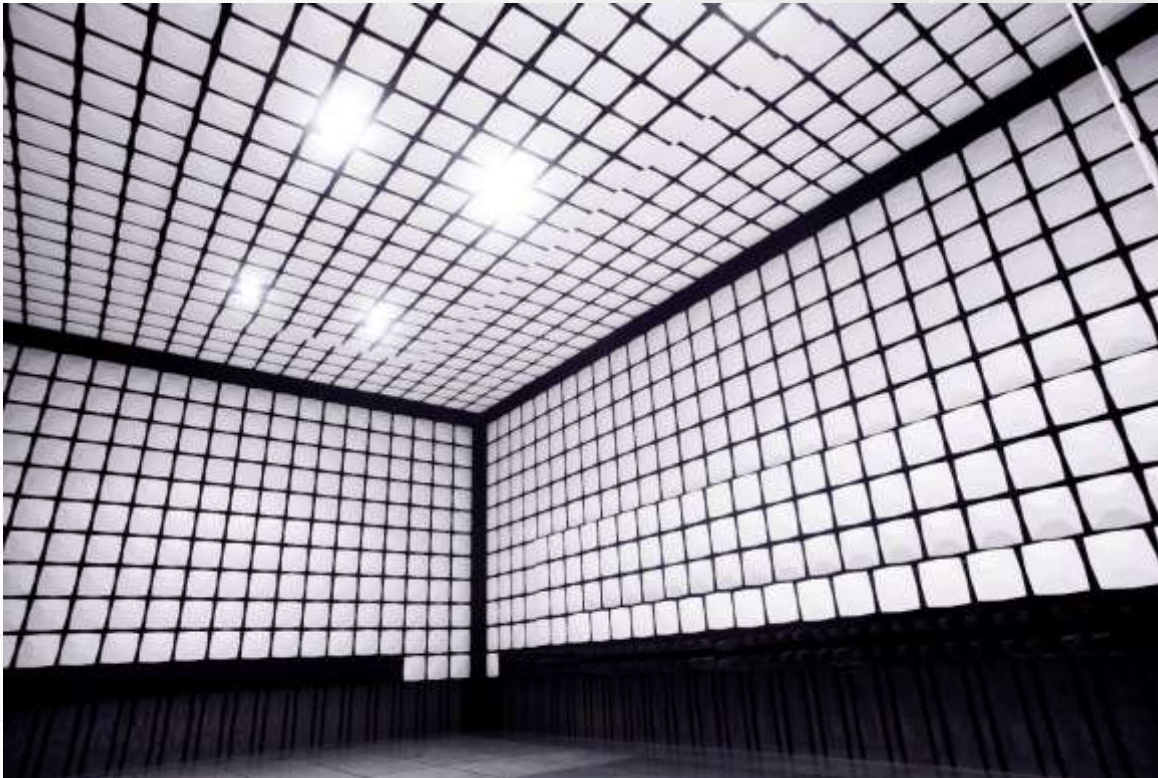
- research in the field of electromagnetic compatibility (EMC) of equipment and systems,
- measurements of electromagnetic disturbance emission immunity tests- used in conformity procedures (CE mark),
- selected EMC tests at the place where equipment is installed,
- tests of electromagnetic shielding effectiveness,
- long- and short – term monitoring of e-m spectrum,
- verification measurements of pulse exposure generators.



Laboratories - examples

❖ Electromagnetic Compatibility

ECL is equipped with specialized measurement chambers, i.e. reverberation chamber, GTEM chamber for EMC tests of electronic equipment and one of the largest in Poland anechoic chamber.



Laboratories - examples

❖ Laboratory of systems and computer networks - CISCO

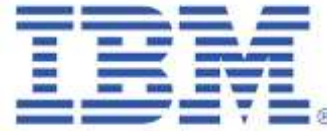


Laboratories - examples

❖ Laboratory of lasers and optical amplifiers



Cooperation with industry



International cooperation - Student's exchange

Summer School - examples



Summer School - Parul University, India



*Summer School –
Chung Hsing University, Taiwan*



Robotics Summer School - Malaga, Spain



MPEI - Moscow, Russia

Student activities

More than 20 Student Activity Groups, some of them:

- ❖ **SISK** (Informatics Systems and Computer Networks)
- ❖ **CHIP** (Microcontrollers and Embedded Systems)
- ❖ **KoNaR** (Robotics)
- ❖ **MOS** (Microsystems Oriented Society)
- ❖ **Wireless Group**
- ❖ **JEDI** (Just Everybody Drone It)



TRAF-BARAK



Outstanding achievements of student groups

- ❖ **The silver medal** was won by the **Navy Robot** in the Line Follower Adult category, prepared by KNR members "KoNaR." With time 4.77 seconds, the first place was shorter than 0.07 seconds.
- ❖ **Gold medal for Robotic Chessboard** in Freestyle Exhibition Adult competition, scoring average 78.2% of points (KoNaR)
- ❖ 2nd place for the "JEDI" science club in the competition **at The International Micro Air Vehicle Competition 2016 (IMAV 2016)**
- ❖ **Demonstrations of the project of the scientific club SKN MOS - P.I.W.O. Light Show** (illuminations, animations, window illumination) organized in cooperation with the Lower Silesian Provincial Office (Days of the Flag of the Republic of Poland, World Autism Day, Independence Day, Wrocław Night Marathon), and Illumination of the windows of the University Clinical Hospital named after Jan Mikulicz-Radecki on the occasion of the premature baby day celebrations



Outstanding achievements of student groups



- ❖ The success of students of the **Scientific Circle of the Polish Section of Audio Engineering Society AES** was conducting numerous projects in the field of sound and lighting (Polish Electricians Association Ball, Concert "A boulevard flooded with music", Robotic Arena) and participation in the **International Convention of Audio Engineering Society in Paris**, where members competed in design competition, recording competition and presented their scientific publications
- ❖ 24-hour marathon program JellyPizzaHack organized in cooperation with Credit Suisse (scientific circle SISK)
- ❖ **1st place in the category "The best game created in Unreal Engine"** for students of the scientific group TK GAMES
- ❖ Students of **KNR KoNaR and KN JEDI** became beneficiaries of the "The best of the best" program

Studies in English – cooperation with foreign units

Programme (Specialization)

Collaboration

Advanced Applied
Electronics (AAE)

Rice University (USA)



Advanced Informatics
and Control (AIC)

Coventry University (UK)
University Nevada Las
Vegas (USA)
BTH Karlskrona (Sweden)



Internet Engineering
(INE)

BTH Karlskrona (Sweden)
TU Dresden (Germany)
Cranfield University (UK)



Embedded Robotics

University of Malaga
(Spain)





Thank you!