



# Wszechnica WEiTI

*(Popular science lectures on electronics and information technology for high schools)*

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<http://wszechnica/elka.pw.edu.pl>

# Warsaw University of Technology

- **WUT – one of the largest universities of technology in Poland**
- **WUT is ranked number ONE in Poland among 18 universities of technology**
- **Public State School**



## Faculty of Electronics and Information Technology

- **Institute of Control and Computation Engineering**
- **Institute of Computer Science**
- **Institute of Telecommunications**
- **Institute of Radioelectronics**
- **Institute of Electronic Systems**
- **Institute of Microelectronics and Optoelectronics**



# Faculty of Electronics and Information Technology

## People in 2010

**330 academic staff**

70 professors

190 adjunct professors

**170 administration staff**

**3,659 students**

3,040 regular

115 evening

318 part-time

186 Ph.D. students

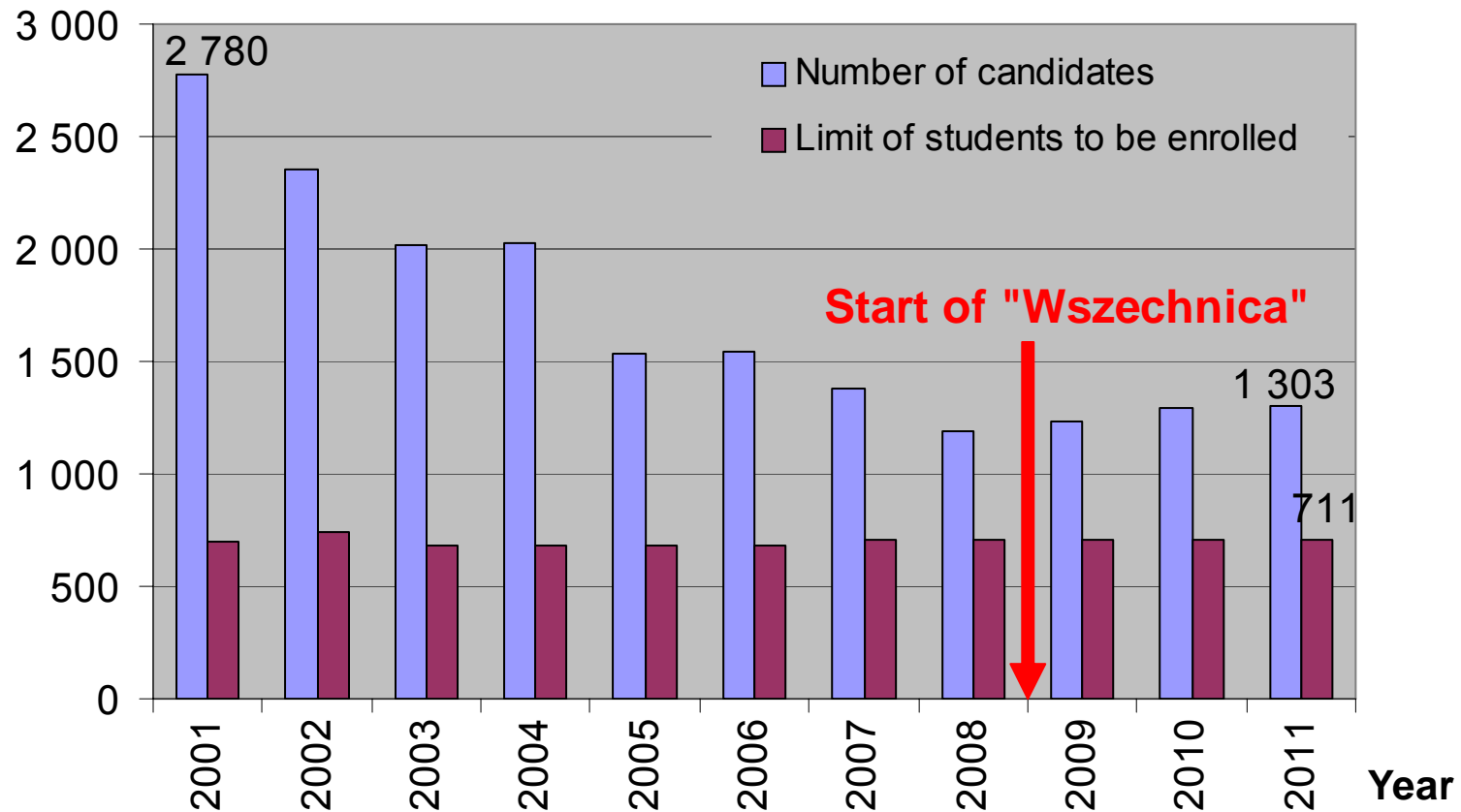
200 students on English track

**239 postgraduate students**

**~ 400 modules**

# Candidates for students

Recruitment for B.Eng. studies 2001 - 2011 in our Faculty



# Wszechnica WEiTI



Target group: *young people of high schools*

Goal : *popularization of the knowledge in fields in which the Faculty specializes and stimulating an interest in studying in our Faculty*

Beneficiaries : *all*



# History of the „Wszechnica”

- Initiative IMiO - 2005 r. (6 lectures)
- Signing the cooperation agreement between WEITI WUT and City Authorities of Warsaw in the popularization of electronics, microelectronics, optoelectronics and information technology – September 2008 r.
- Start of „Wszechnica” project – January 2009 (initiator – Prof. Andrzej Jakubowski)

# Goal

- **Popularization of the knowledge in the fields of research interest of the Faculty, i.e. electronics and information technologies.**
- **Inspiration of the interest among young people in studying at the Faculty.**
- **Quantitative and qualitative improvement of vocational education.**
- **Strengthening the connection between labour-market needs and education.**
- **Tightening the connection of the theoretical and practical education.**
- **Improvement of the efficiency of teaching physics and mathematics with emphasis on advance technology.**

# Activity forms

- Lectures
  - delivered in the Faculty building
  - Delivered at schools
- Classes in Faculty labs
- Participation in popular-science events,
- Patronage over the „Scarabeusz” (Scarab) – computer science-physics-mathematics competition
- Cooperation with high schools
- Other



# Lectures (1)

- 1. „About transistor and Moore’s law: how semiconductors help create information society”**  
*- prof. dr hab. inż. Andrzej Jakubowski*
- 2. „From counting boards to microprocessors – information technologies and microelectronics”**  
*- prof. nzw. dr hab. inż. Lidia Łukasiak*
- 3. „About technology and fabrication in microelectronics and microsystems”** *- prof. dr hab. inż. Romuald B. Beck*
- 4. „Microsystems – miniaturization and integration”**  
*- dr inż. Zbigniew Pióro*
- 5. „What is a radar?”** *- dr hab. inż. Krzysztof Kulpa*

## Lectures (2)

**6. „What is widely not known about information technology?”**

*- dr inż. Jerzy Mieścicki*

**7. „What is an optical fiber?”**

*- prof. dr hab. inż. Bogdan Galwas*

**8. „Laser – unusual source of light”- dr inż. Ryszard Piramidowicz**

**9. „Light as a tool – laser applications”**

*- prof. dr hab. inż. Michał Malinowski*

**10. "Claude E. Shannon – scientist and his work. How do we measure information?” - prof. dr hab. inż. Jerzy Szabatin**

**11. „Satellite systems – how do satellites work and what they may serve for” - dr. inż. Krzysztof Kurek**

**12. „Programmable digital circuits or a factory on your desk” -**

*prof. dr. hab. inż. Tadeusz Łuba*

# Lectures (3)

13. **„Blind watchmaker or perfectionist? What does information technology get from evolution?”**  
– *prof. nzw. dr. hab. inż. Jarosław Arabas*
14. **„Automatic control – thought hidden in software”**  
- *dr. inż. Maciej Ławryńczuk*
15. **„Why you should study at the Faculty of Electronics and Information Technology”** - *prof. dr. hab. inż. Andrzej Jakubiak*
16. **„Wired access to the Internet”**  
- *doc. dr. inż. Sławomir Kula*
17. **Digital revolution. Where are the computers leading us?**  
– *dr. hab. inż. Piotr Gawrysiak*
18. **„Nanotechnology – what is it”** - *prof. Jerzy Rużyłło*

# Lectures (4)

19. **„ How electronics supports human heart”**  
– *prof. dr hab. inż. Wiesław Kuźmicz*
20. **„Towards an open, mobile, network society”**  
– *prof. dr hab. inż. Mieczysław Muraszkiewicz*
21. **„Nano world – reality and dreams”**  
– *prof. dr hab. inż.. Jan Szmidt*
22. **„Can silicon fly?”** – *prof. dr hab. inż. Ryszard Jachowicz*

## 2 dedicated lectures for primary schools

1. **„ How does a telephone work”** - *doc. dr. inż. Sławomir Kula*
2. **„How does a computer work”** - *dr inż. Jerzy Mieścicki*

# Lectures ?

**"Claude E. Shannon – scientist and his work. How do we measure information?"** - *prof. dr hab. inż. Jerzy Szabatin*

**OR**

**"How to measure information?"** - *prof. dr hab. inż. Jerzy Szabatin*

# Laboratories

1. Clean-room
2. Integrated circuit design laboratory
3. Logic-circuit design laboratory
4. Telecommunications network laboratory
5. Laser technique laboratory
6. Audio technique laboratory

# Wszechnica WEiTI in numbers

*(since 01-01-2009)*



- 50 lectures attended by more than 4200 high-school students
- Classes in WEiTI laboratories
- Patronage over the „Scarabeusz” (Scarab) – computer science-physics-mathematics competition for high school students (over 400 participants)
- Cooperation with City Authorities of Warsaw and 8 high schools
- Annual budget of the „Wszechnica” project – **10.000** EUR.

# Job and Practice Fair

- Since 2008 (2 times in year)
- Over 100 companies
- Many seminars and meetings





# Plans for the future

- **Increasing** the number of laboratories that may be visited.
- Organization of laboratory classes with **active** participation of a small number of students (preparation of instructions)\*
- Development of **education kits** illustrating various physical phenomena and technical issues\*
- Development of **software simulating** various phenomena\* and making it accessible over the Internet
- **Integration of student research teams!**

**\* Increased financial means and cutting red tape necessary!!!**