



# ROLE OF CTU IN EDUCATION OF EXPERTS FOR THE CZECH NUCLEAR PROGRAM

Jan Rataj

[jan.rataj@fjfi.cvut.cz](mailto:jan.rataj@fjfi.cvut.cz)

Czech Technical University in Prague  
Faculty of Nuclear Sciences and Physical Engineering

# Agenda

- Czech Technical University in Prague
- Faculty of Nuclear Sciences and Physical Engineering
  - Nuclear Study Programs
  - Faculty Labs
  - Cooperation
  - Activities for high-school students
- Challenges
- CENEN



CTU Emblem



# Czech Technical University in Prague

- One of the largest universities in the Czech Republic, and the oldest institute of technology in Central Europe.
- CTU was established in 1707.
- 8 faculties + 6 R&D and E&T institutes & centers
- 17 550 students and 4 137 staff
- [www.cvut.cz](http://www.cvut.cz)



Rescript of the Emperor Joseph I



# Czech Technical University in Prague

6 R&D  
Institutes  
& Centres

Faculty of Mechanical  
Engineering

Faculty of Civil Engineering

Faculty of Electrical  
Engineering

Faculty of Nuclear Sciences  
and Physical Engineering

Faculty of Architecture

Faculty of Transportation  
Sciences

Faculty of Biomedical  
Engineering

Faculty of Information  
Technology



# Faculty of Nuclear Sciences and Physical Engineering

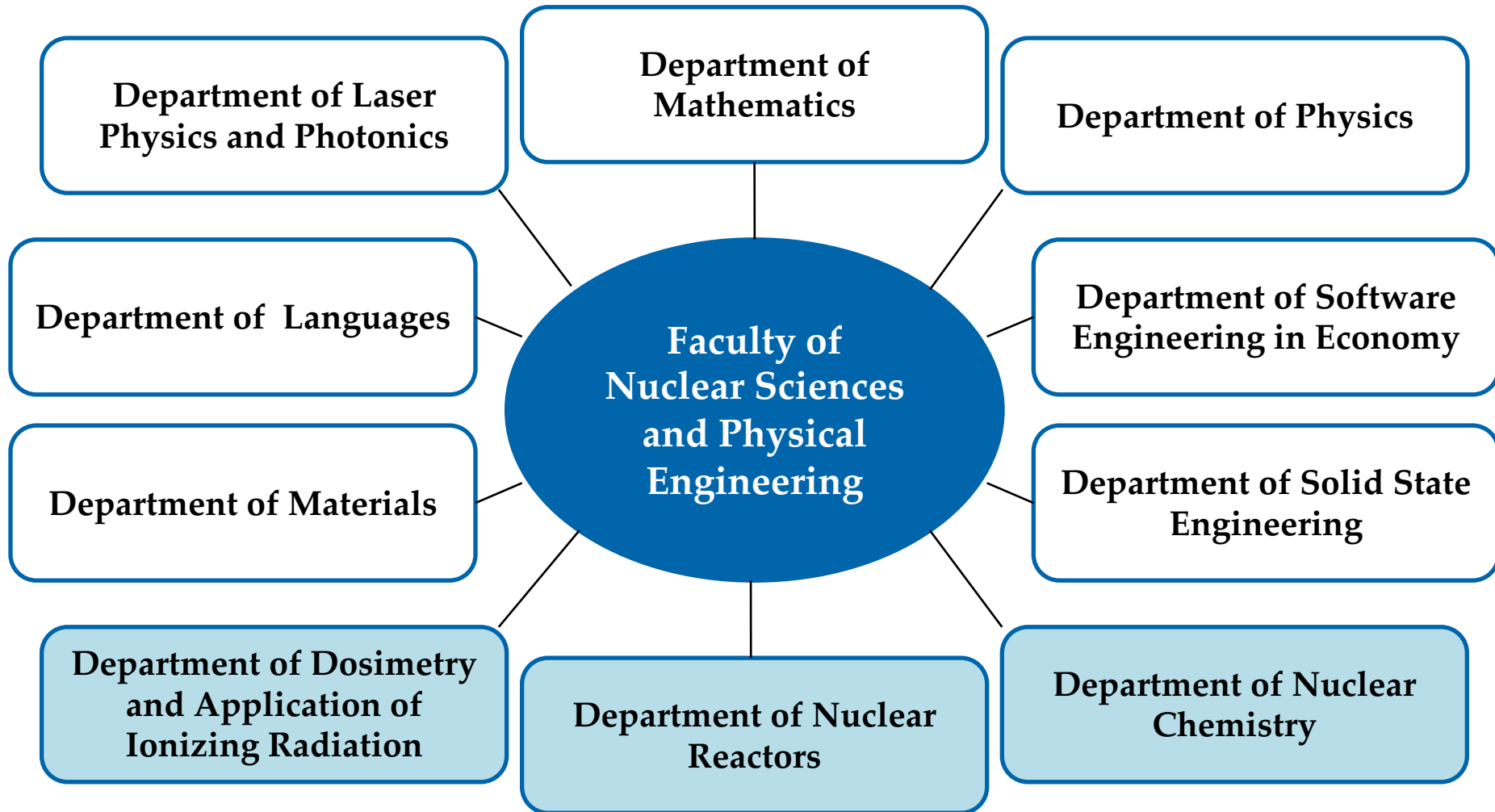
- The Faculty was founded in 1955 as part of the Charles University
- In 1959 the faculty became a new special faculty of the Czech Technical University in Prague
- Establishment of the Faculty  $\Leftrightarrow$  beginning of the nuclear energy peaceful use in Czech Republic
- 1 183 students and 372 staff
- [www.fjfi.cvut.cz](http://www.fjfi.cvut.cz)



Main faculty building



# Departments



# Nuclear Study Programs

- Bachelor & Master Bachelor Study Programs
  - Nuclear Engineering
  - Nuclear Chemistry
  - Decommissioning of Nuclear Facilities
  - Nuclear and Particle Physics
  - Radiological Physics
- Doctoral Study Programs
  - Nuclear Engineering
  - Nuclear Chemistry
  - Nuclear Safety, Security and Forensics
  - Radiological Physics



Students' training in the VR-1 reactor control room



# Faculty Labs for Practical Training



Tokamak GOLEM



VR-1 training reactor



VR-2 subcritical reactor



Radiochemical laboratory



Electron microscope laboratory





# Cooperation with Industry, Research and Governmental Bodies and Authorities

- Industry: ČEZ, ŠKODA JS, ÚJV Řež, NUVIA, ČEZ, UJP, WITKOWITZ, NUVIA, VF Černá Hora...
- Research: CVŘ, Czech Academy of Sciences, SÚRO, SÚJBCHO...
- Governmental Bodies and Authorities: SÚJB, SÚRAO, Ministry of Industry and Trade, Ministry of Education Youth and Sports
- International cooperation: Universities, ENEN, IAEA, NEA OECD, Industry (KHNP, EDF, Westinghouse)



# Cooperation - Best Practices



CEZ educational activities for students



# Activities for High-School Students - Involvement in Learning



Sparrow Flies to Schools - Lecture for high school students using Internet Reactor Lab



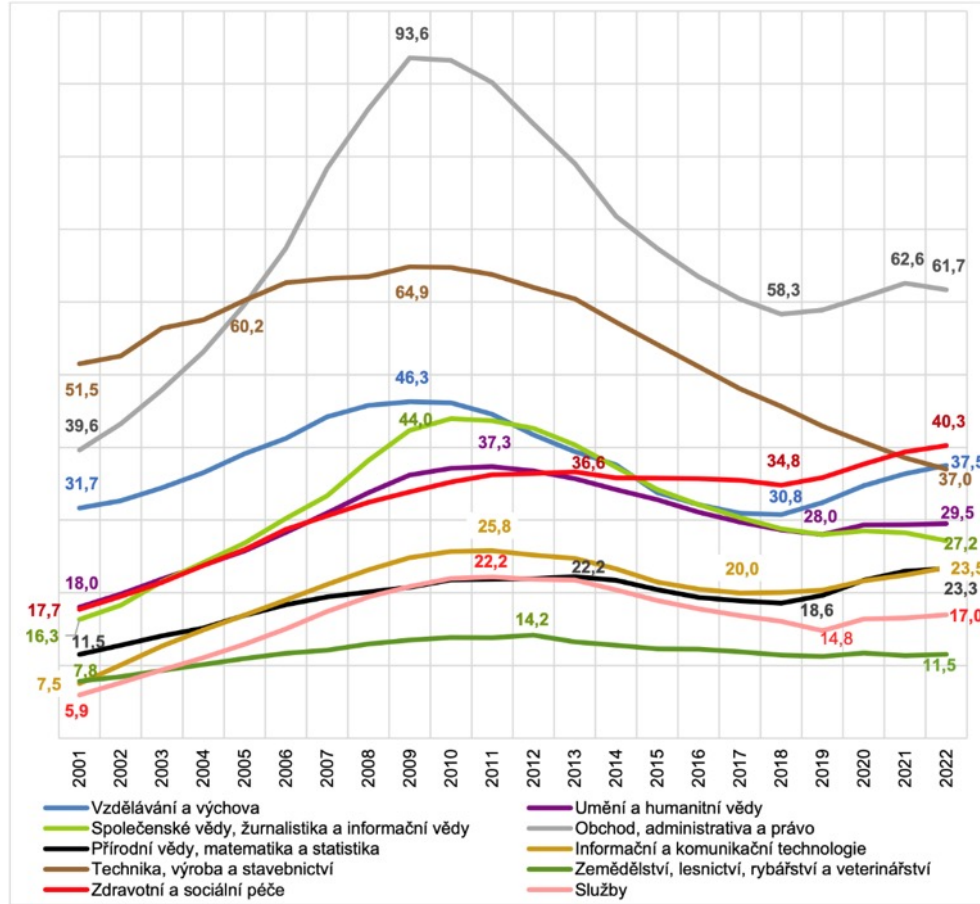
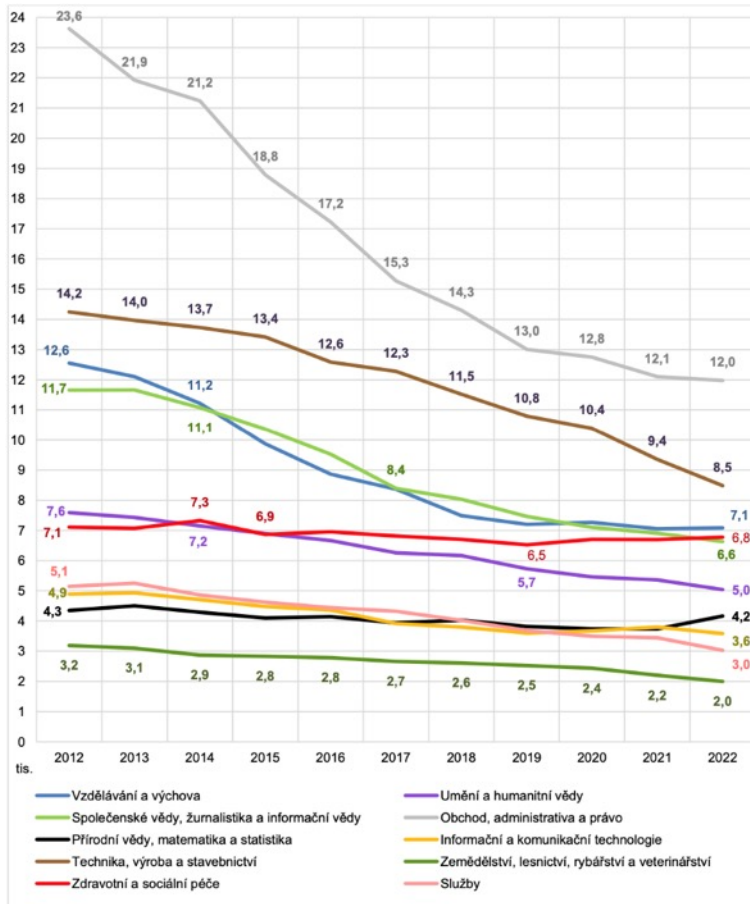
# Activities for High-School Students – Organization of Special Events



One Day as a Reactor Physicist



# Challenges



Data from the Czech Statistical Office - numbers of students and graduates at universities



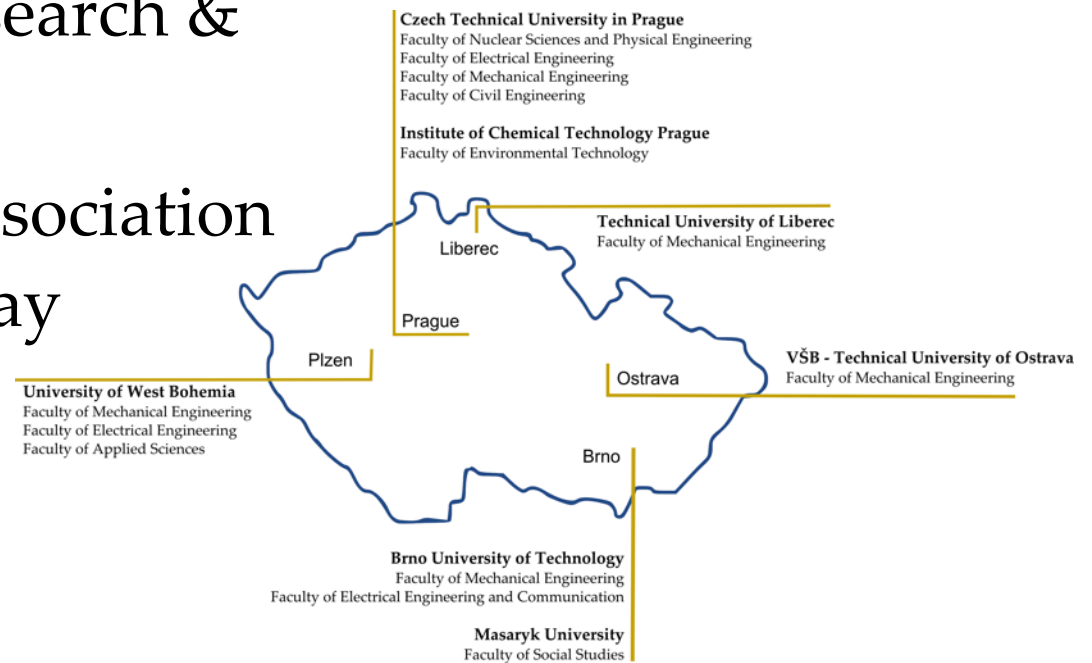
# Needs/Challenges of Nuclear Education in the Czech Republic

- WE MUST increase student interest in technical fields
- WE MUST seek and create leaders
- WE MUST teach effectively and use modern practices and technology
- WE MUST maximize and optimize collaboration with industry, research and government
- WE MUST focus on vocational education - upskilling and reskilling
- WE MUST deepen cooperation with foreign countries



# CENEN - Czech Nuclear Education Network

- Voluntary association
- 7 Universities
- Governmental & research & industry partners
- The revival of the association is currently underway



**Thank you for your attention!**

