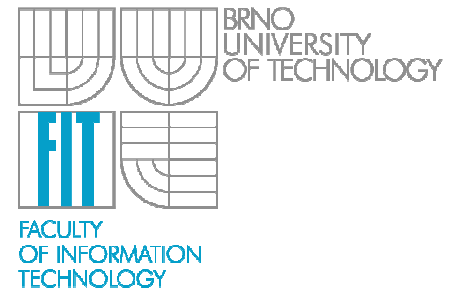


# From IT Department to IT Faculty

**Jaroslav Zendulka, Tomáš Hruška**

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11<sup>th</sup> October 2010

# Faculty of Information Technology, Brno University of Technology

Common Information



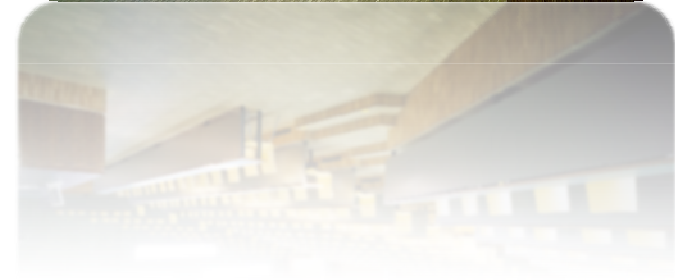
new faculty building

- Brno
  - second largest city in Czech Republic (>400 thousand inhabitants)
  - five universities, ~ 60 thousand students)
- Brno University of Technology
  - second largest university in Brno
  - oldest university in Brno (founded in 1899)
  - second largest technical university in the Czech Republic
  - ~ 20 thousand students
  - eight faculties (FIT, FEEC, FME, FCE, FCH, FBM, FA, FFA)



Božetěchova street with our alma mater

- founded on 1st January 2002
- location
  - Cartesian monastery (1371, +2007)
  - new buildings (2007)
- staff
  - students ~2600
  - academics ~100
- departments
  - Computer Systems & Networks
  - Information Systems
  - Intelligent Systems
  - Computer Graphics & Multimedia
- centres
  - Computer centre
  - Project centre



great hall

- Bachelor's degree in **Information Technology**
- Master's degree in **Information Technology**
  1. Bioinformatics & Biocomputing
  2. Computer & Embedded Systems
  3. Computer Graphics & Multimedia
  4. Computer Systems & Networks
  5. Information Systems
  6. Information Technology Security
  7. Intelligent Systems
  8. Management & Information Technologies
  9. Mathematical Methods in Information Technology
- Ph.D. degree in **Computer Science & Engineering**



original tower clockwork

# History

1349 – 2000



Saint Trinity church in  
the Faculty campus

- unique Cartesian monastery preserved in Moravia
- after having chosen Brno as his seat from 26<sup>th</sup> November 1349, the Margrave Jindřich, Emperor Charles's IV younger brother bought a large estate in the vineyards of the village Královo Pole
- the foundation document of the monastery is dated on 13<sup>th</sup> August 1375



Brno Cartusian monastery  
headquarter of the Faculty

- the monastery was given under the military administration (Joseph II)
- there begun large maintenance and adaptation work
- Brno University of Technology as the new landlord (since 1963) has undertaken a gradual reconstruction of the monastery buildings



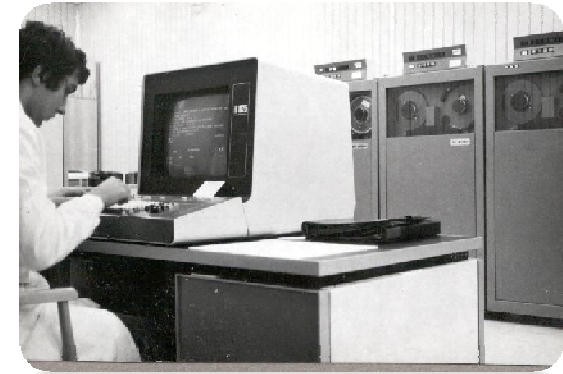
main court with fountain  
(after reconstruction)

- 1964 - Department of Automatic Computers at the Faculty of Electrical Engineering at BUT
- 1990 received a new name Department of Computer Science and Engineering (DCSE)
- 1993 - transformation to the Faculty of Electrical Engineering and Computer Science (FEECS)
  - the separation of the study plans for Computer Science began immediately after the 1<sup>st</sup> semester of the common study program



LGP 30 - one of the first computers (1967)

- 1964
  - Master's degree (5 years) (Ing.) in Automatic Computers
  - Doctoral degree (3 years) CSc. (Candidate of Science)
- 1973
  - Master's degree (5 years) in Electronic Computers
  - Doctoral degree
- 1990
  - Master's degree (5 years) in Computer Science and Engineering
  - Doctoral degree (3 years) in Cybernetics and Informatics



EC 1025 computer  
(about 1985)

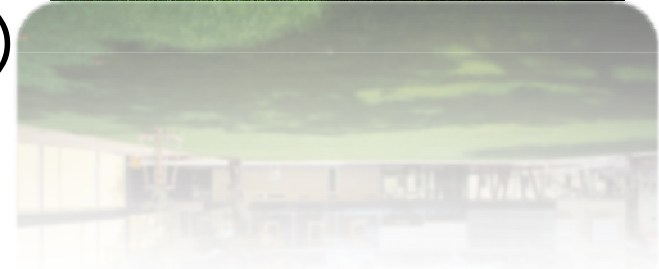
# First attempt Faculty of Computer Engineering

1992



faculty campus in the  
beginning of millenium

- Department of Computer Science and Engineering at Faculty of Electrical Engineering
  - one member of 21 faculty Academic Senate members
  - continual discussions about computing curricula (ACM/IEEE CS)
  - establishing of the Faculty of Informatics at MU (the largest university in Brno)
- result
  - then head of the department did not want to become a leader in such an effort
- probably we were not prepared sufficiently



atrium

## Slide 12

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**jz5**

tady by myslím bylo dobře uvést stručně motivaci našich snah - většina je v prvním bodě (až na počty studentů), možná nazvat motivation,  
zendulka jaroslav, 04/10/2010

# Serious preparation

1992 - 2000



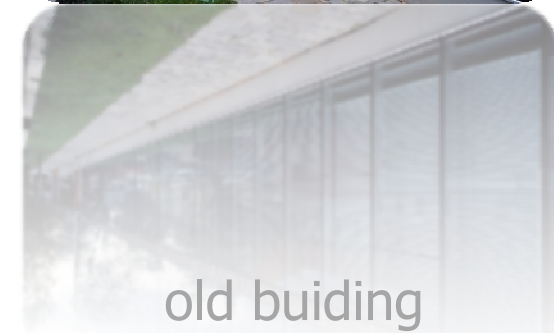
exhibition hall

- win university management's favour with this idea and its support
- proposal by the Rector approved by the university Academic Senate
- curricula approved by the Accreditation Commission (national level)
- fundamental faculty regulations approved by the university Academic Senate



main hall of the new building

- initial property and funding of the faculty
- attract students
- human resources (academic, technical and administrative staff)
- fundamental faculty regulations approved by the university Academic Senate
- infrastructure



old buiding  
reflects in the new  
one frontage

- to elect the faculty Academic Senate
- to elect the Dean
- to constitute vice-deans and heads of departments
- to prepare other faculty regulations and approve them by the faculty Academic Senate



northern seclusions

- change of the department head and management
- rise of staff qualifications  
necessity of a new building and reconstruction of the old one
- to prepare new curricula in the frame of Bologna declaration
- to increase income (given by the number of students)
- to convince the university management and get its support



main lecture hall from outside

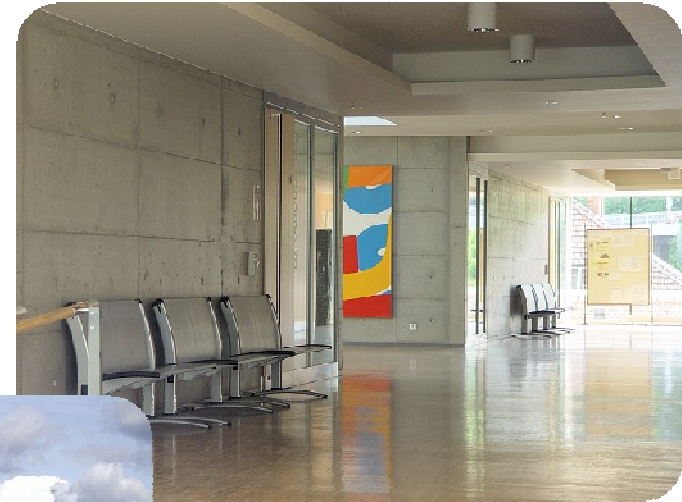
- 5 new full professors to guarantee study programs of a new faculty
- searching for funding the reconstruction of the building (former monastery only at that time)
- plan to reach at least 1,000 students to be able to fund the operation of the faculty
- to nominate a candidate with chance to be elected in university Academic Senate chairman elections



Božetěchova street  
in dusk -  
both sides are faculty  
buildings

## | In the meantime - construction of a Lecture Hall I. |

- lecture rooms of 150, 70, 70 seats
- complete video service
- started in 2001, finished in 2002



# D-Day 21<sup>st</sup> September 2000

15th September 2000 – 1st January 2002



footbridge

- new Rector of BUT
- BUT lost two faculties in Zlín
- necessity to compensate for the decrease in number of students
- attempt at Slovak University of Technology in Bratislava to establish the Faculty of Computers
- chance to get funding of up to 2,500 students (not only 1,500 as assumed before) plus funding of a new campus with old monastery reconstruction
- to admit 2,500 students, a new building was necessary



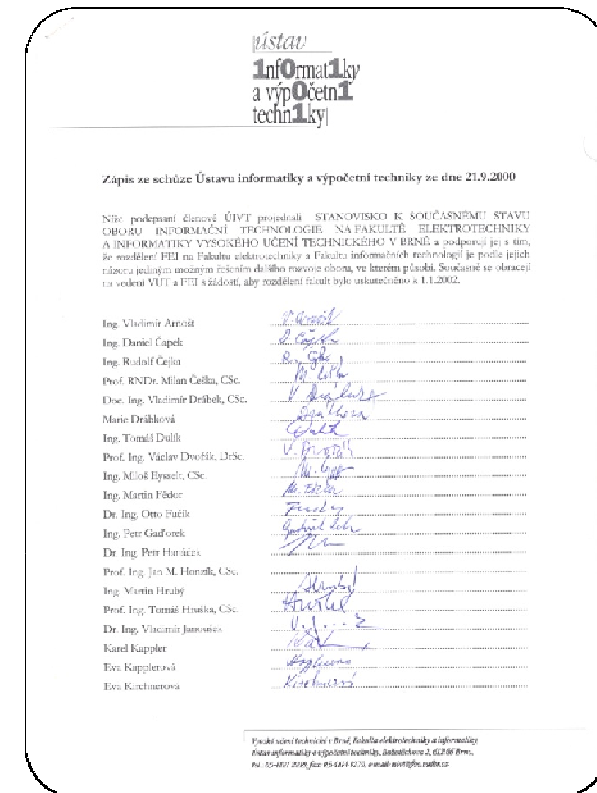
staffroom

- on 15<sup>th</sup> September 2000, the Declaration of the IT state at the Faculty of Electrical Engineering and Computer science was written
- can be considered as a pre-SWOT analysis
- proposal was to split the Faculty into two parts
  - of Electrical Engineering
  - of Computer Science and Engineering



library

- kick-off department meeting for the separation of the department
- offer to the Department of Control and Instrumentation to join us
- we did not agree because of their impossible demands  
→ we continued to prepare a separate faculty alone

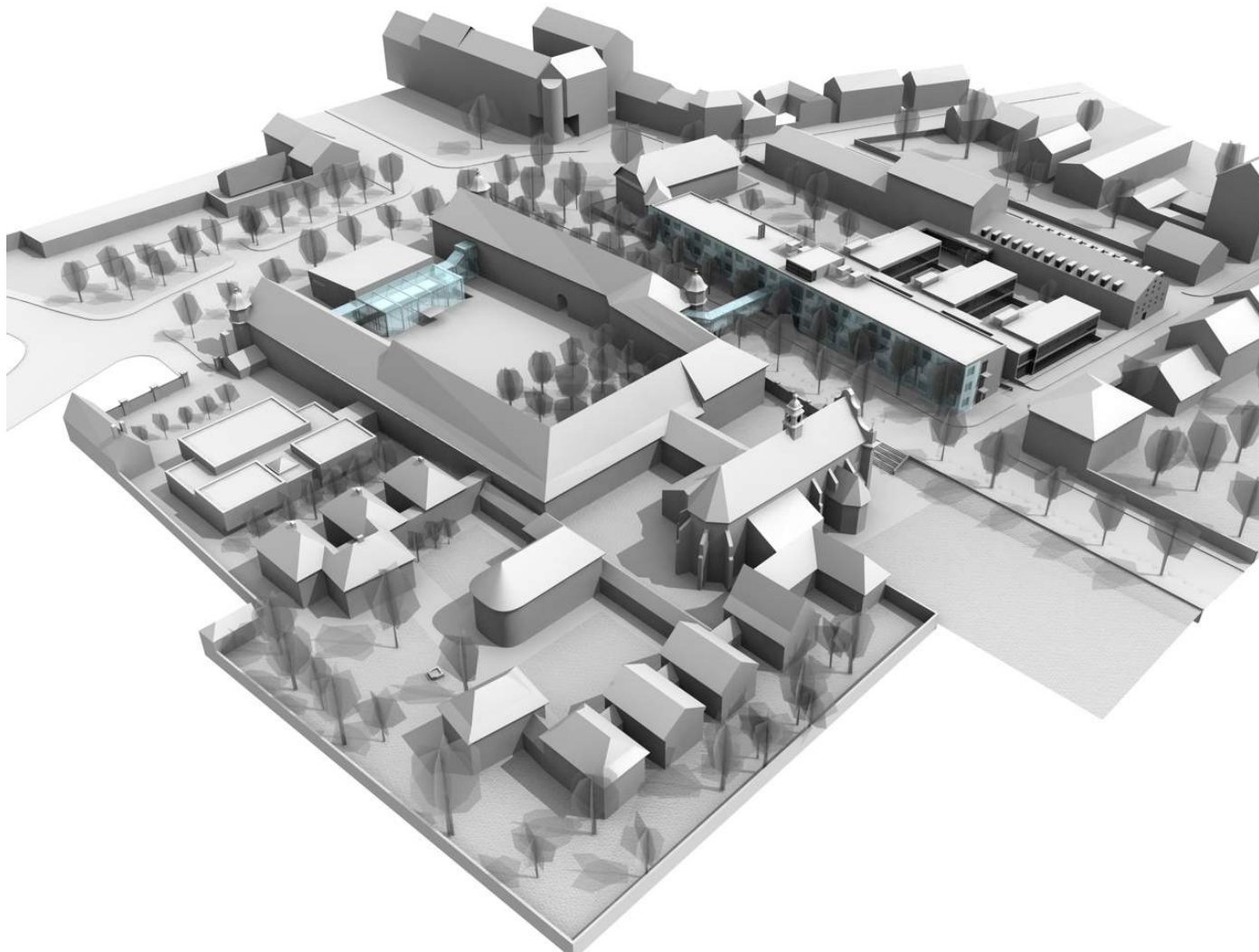


minute from the kick-off department meeting

- to be able to acquire the campus reconstruction project we decided
  - to increase the target number of students to 2,500
  - to expand to the other side of the street (former estate, later a brewery)
  - to increase the number of staff members to 150



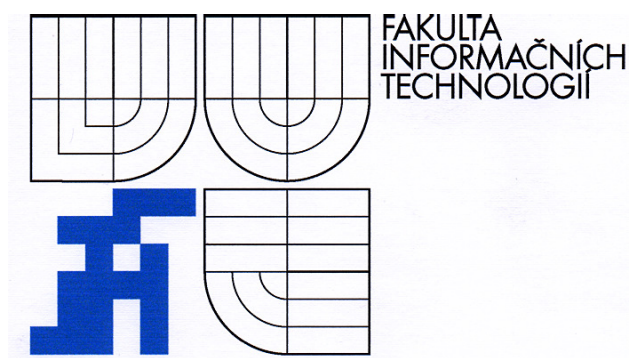
corridor



- preferences
  - same abbreviation in Czech and English
  - suppression of "ands"
- 1. Fakulta informatiky a komunikací – FIK  
Faculty of Computer Science **and** Communications – FCSC
- 2. Fakulta informačních technologií - **FIT**  
Faculty of Information Technology - **FIT**



greek columns



# Planned growth of the number of students

jz28



	19-year citizens	sum	difference	1st year	2nd year	3rd year	4th year	5th year
2001	144 534	696		153	138	163	119	123
2002	140 300	854	158	290	159	144	142	119
2003	136 508	1,071	217	362	282	155	116	156
2004	134 947	1,383	312	489	302	348	128	116
2005	134 323	1,537	154	485	332	304	288	128
2006	132 171	1,814	277	755	437	334	0	288
2007	130 487	2,089	275	959	660	435	0	35
2008	130 722	2,435	346	1,218	742	475	0	0
2009	127 895	2,614	179	1,143	1022	449	0	0
<b>2010</b>	<b>130 507</b>	<b>2,665</b>	<b>51</b>	<b>1,050</b>	<b>881</b>	<b>734</b>	<b>0</b>	<b>0</b>
2011	127 132	2,356	-309	1,050	812	494	0	0
2012	121 965	2,313	-43	1,050	812	451	0	0
2013	119 517	2,313	0	1,050	812	451	0	0

## Slide 28

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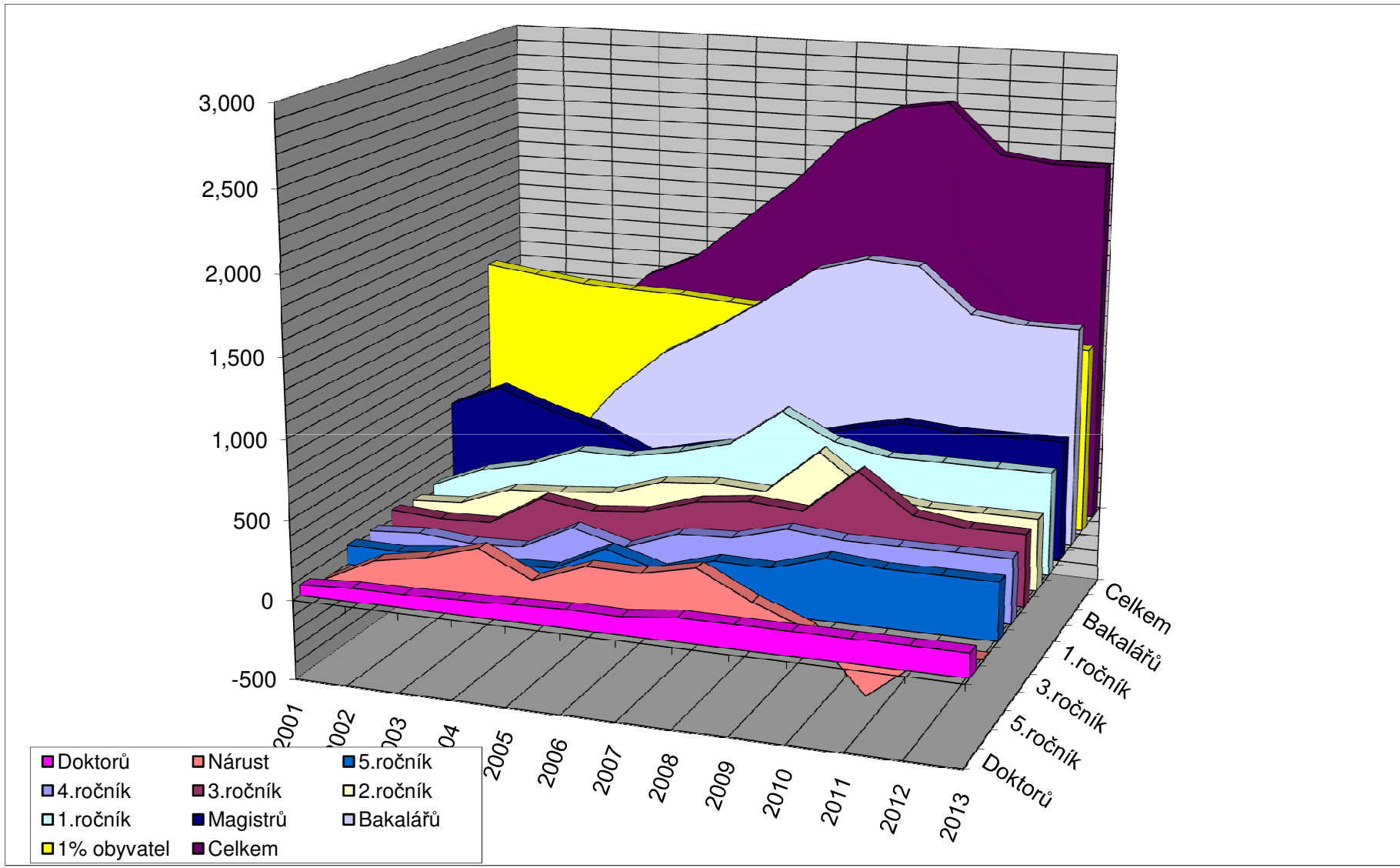
jz28

Planned number of students.

Podle Kena by měly být za tisíce čárky.

zendulka jaroslav, 08/10/2010

# Chart of planned number of students jz29



**Slide 29**

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**jz29**

**number of students**

zendulka jaroslav, 04/10/2010

- Modification of the University Long-Term Plan (important document)
- constitution of the Preparatory Committee by the Rector
- approval of the project by the university Academic Senate
- preparation of detailed steps on 2<sup>nd</sup> August 2001
- audience at the Accreditation Commission on 8<sup>th</sup> October 2001



ramp for disabled people

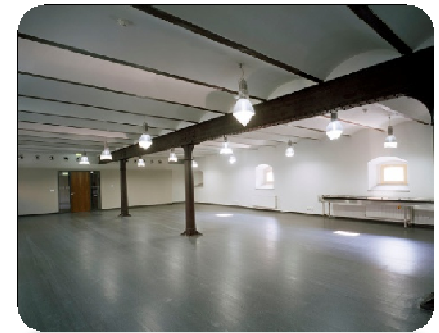
- Faculty Academic Senate
- main faculty regulations approved by the university Academic Senate
- Disciplinary Committee
- Constitution of a Dean's office and departments



entrance of main  
lecture hall

# Independence Day

1<sup>st</sup> January 2002



mensa

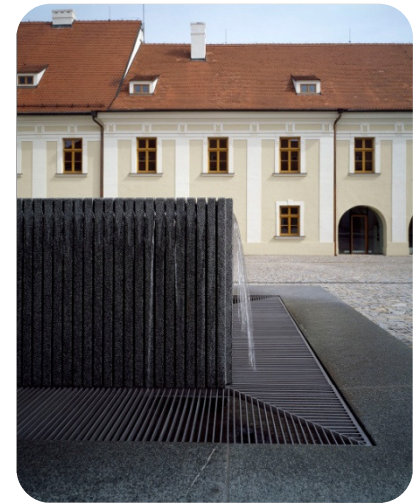
- election of the Academic Senate
- election of the Dean
- conversion of 696 students from the original faculty
- living with own budget
- departments
  - information systems
  - intelligent systems
  - computer hardware and networks
  - computer graphics and multimedia
  - computer centre
- constitution of department heads



old fountain

# First dean period

17<sup>th</sup> January 2002 – 16<sup>th</sup> January 2008



new fountain

## Electives – Minor specialisation

<b>S1</b>	6 Discrete Mathematics	4 Linear Algebra & Geometry	5 Electrical-Circuits 1	5 Physics 1	6 Basic of Programmi	4 Introd. to Softw. Engineer.	0 Sports	<b>30</b>
<b>S2</b>	5 Matematic Analysis	6 Electrical Circuits 2	5 Assemblers	5 Operation Systems	5 Design of Digital Systems	0 Sports	4 Foreign Language - English	<b>30</b>
<b>S3</b>	5 Numeric. Mathem. & Probability.	5 Signals & Systems	5 Design of Computer Systems	5 Formal Languages - Compilers	5 Algorithms	5 Elective 1		<b>30</b>
<b>S4</b>	6 Basics of Computer Graphics	5 Modelling & Simulation	5 Database systems	5 Languages & OOP	5 Communication & Nets	4 Workshop on OOP Lang.		<b>30</b>
<b>S5</b>	5 Net Application and Admin.	4 Information Systems	6 Micro-proc.& Em-bed. Syst.	4 Design of User Inteface	5 Elective 2	5 Elective 3		<b>29</b>
<b>S6</b>	8 Bachelor Thesis	4 Basics of AI	4 Peripherals	5 Humanities	5 Elective 4	5 Elective 5		<b>31</b>
								<b>180</b>

- Master's degree
- 4 branches
- **Information Technology**
  1. Computer Graphics & Multimedia
  2. Computer Systems & Networks
  3. Information Systems
  4. Intelligent Systems
- Ph.D. degree
- **Computer Science & Engineering**



old brewery from outside

year	number	difference
2002	854	158
2003	1071	217
2004	1383	312
2005	1537	154
2006	1814	277
2007	2089	275
2008	2435	346

year	budget (mil. CZK)
2002	41
2003	49
2004	52
2005	65
2006	74
2007	87



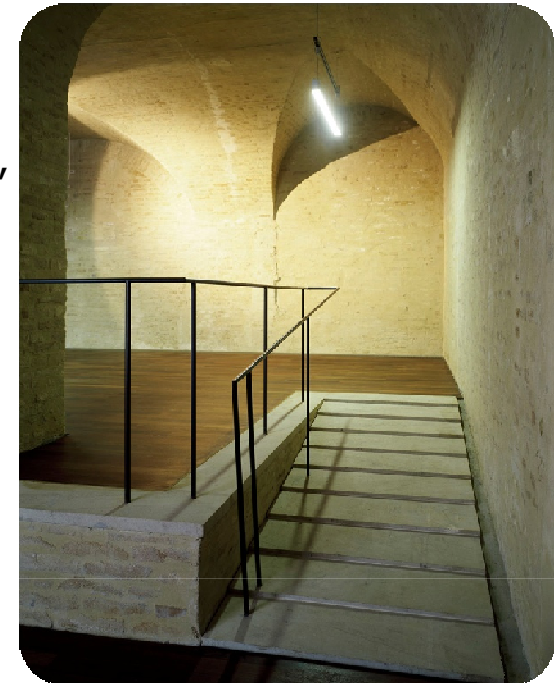
corridor in the first floor

- photos in this presentation show the result
- investment about 700 mil. CZK
- 1. step
  - new building with modern computer centre and infrastructure
  - student's canteen and a small dormitory in the old brewery
  - laboratory pavilions
- 2. step
  - reconstruction of the old monastery



stairs detail  
(exhibition room)

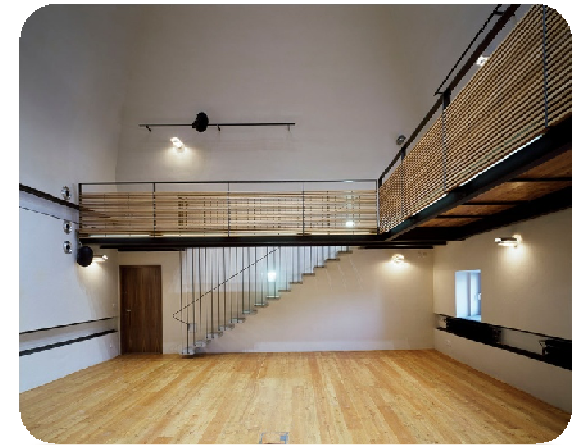
- Applied evolutionary algorithms,
- Computer Architecture,
- Computer networks, communication protocols and embedded systems,
- Computer Graphics,
- Diagnostics,
- Evolvable Hardware,
- Formal Models,
- Formal Verification,
- High Performance Computing,
- Information and Database Systems,
- Intelligent Systems,
- IT Security,
- Management of software engineering,
- Medical Computer Graphics,
- Natural Language Processing,
- Petri Nets,
- Re-programmable Architecture,
- Speech Processing,
- System Modelling and Simulation



exhibition room detail

# Second dean period

17th January 2008 – present time



experimental theatre

- stabilization of the faculty in all areas of its activities
  - to sustain the achieved number of students
  - to improve the quality of research and development – projects should become an important source of future faculty development
  - to look for multi-source funding
  - to finish reconstruction of the faculty campus
  - to finish high quality and effective system of campus infrastructure maintenance (combination of own and outsourced services)



entrance hall of the  
new building

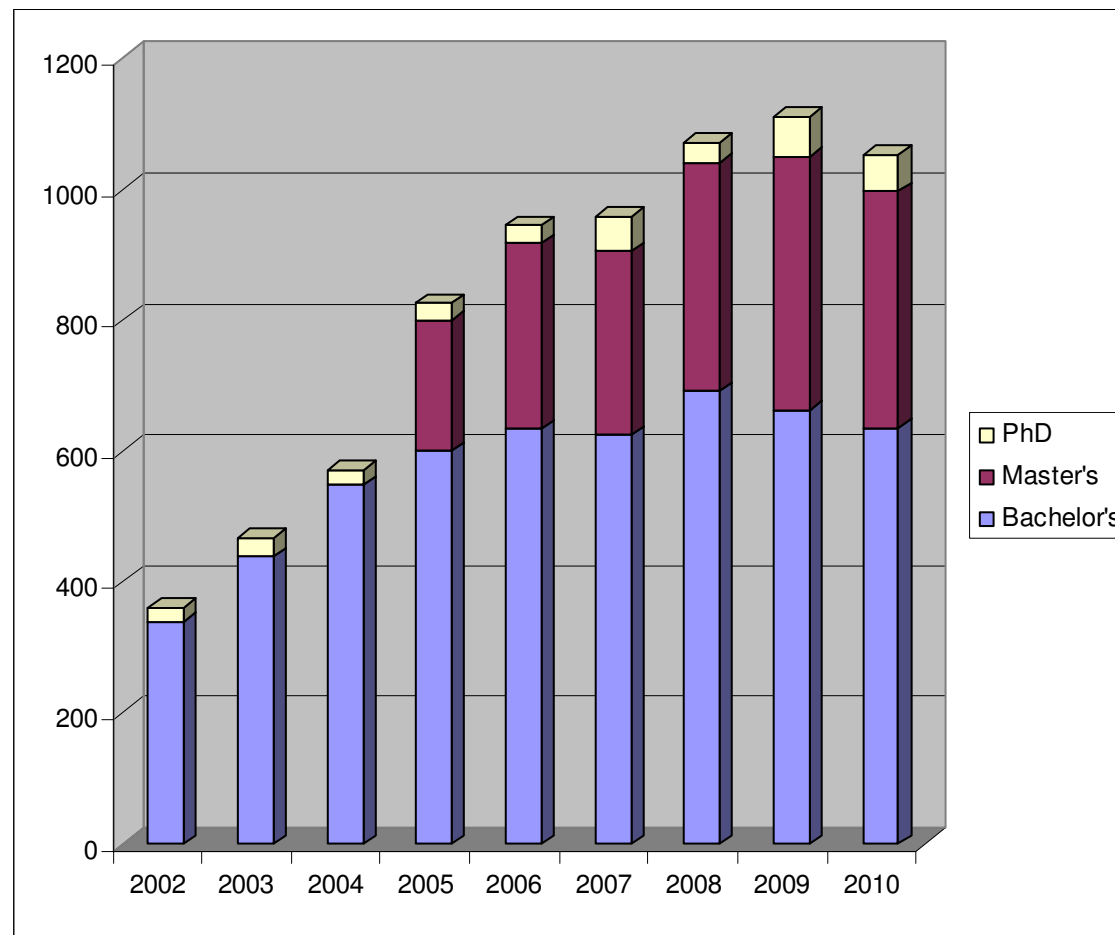
## | Main objectives (2)

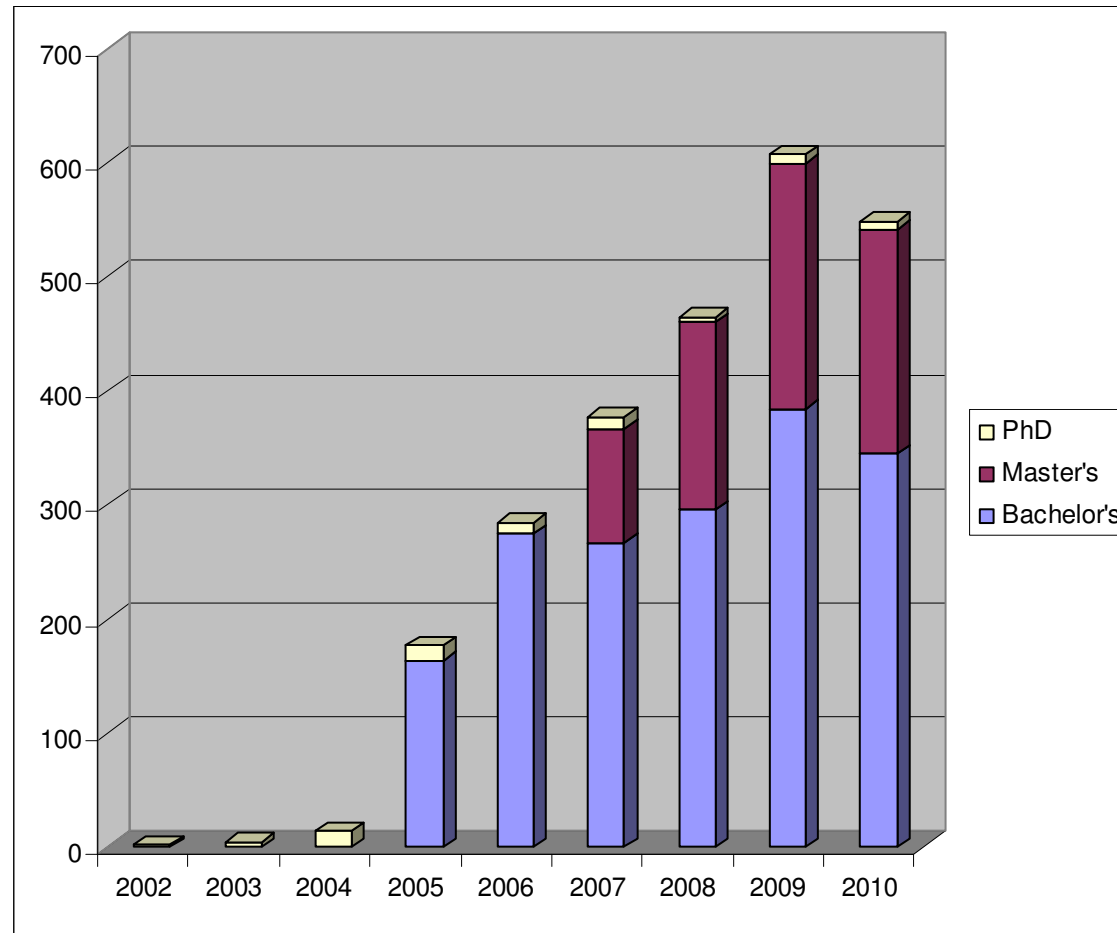


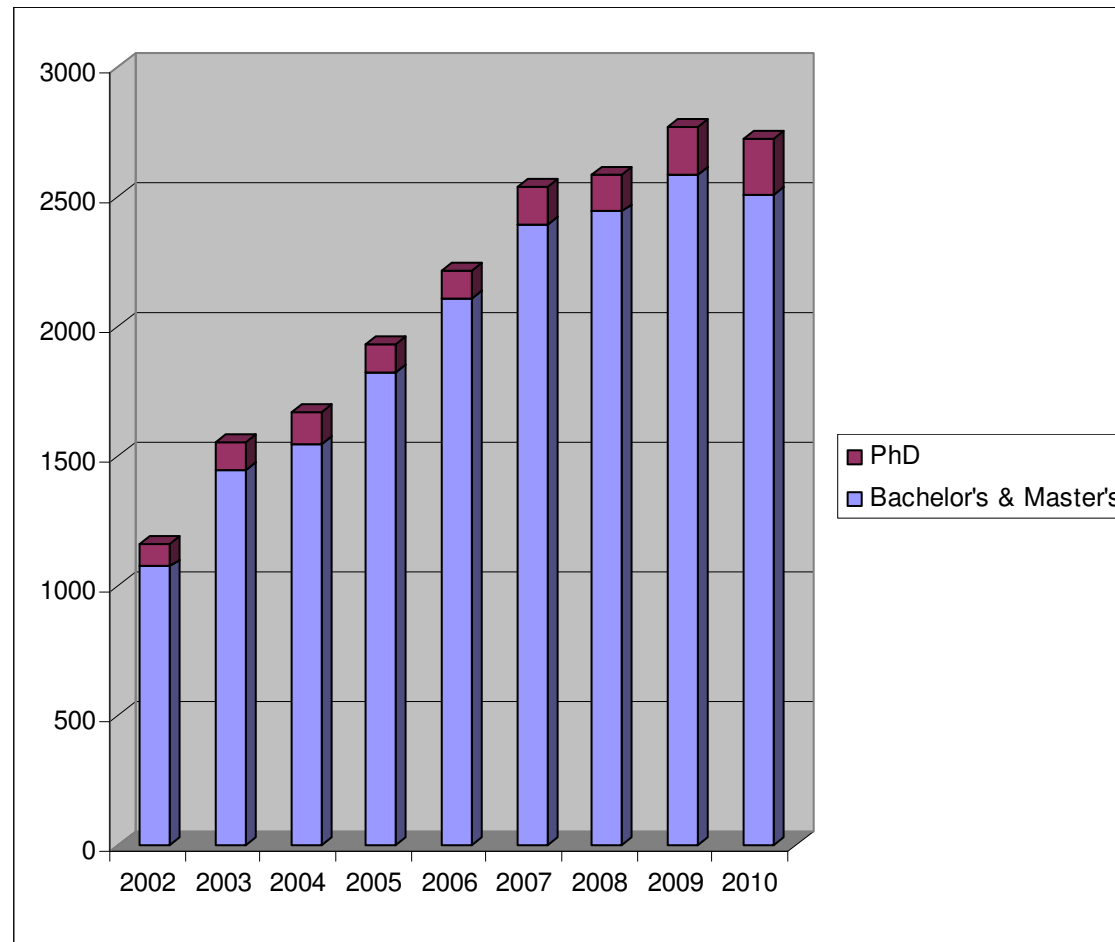
- to sustain reasonable level of faculty independency
- preservation of very good relationships and social climate at the faculty
- participate in some investment project funded under operational program Research and Development from EU

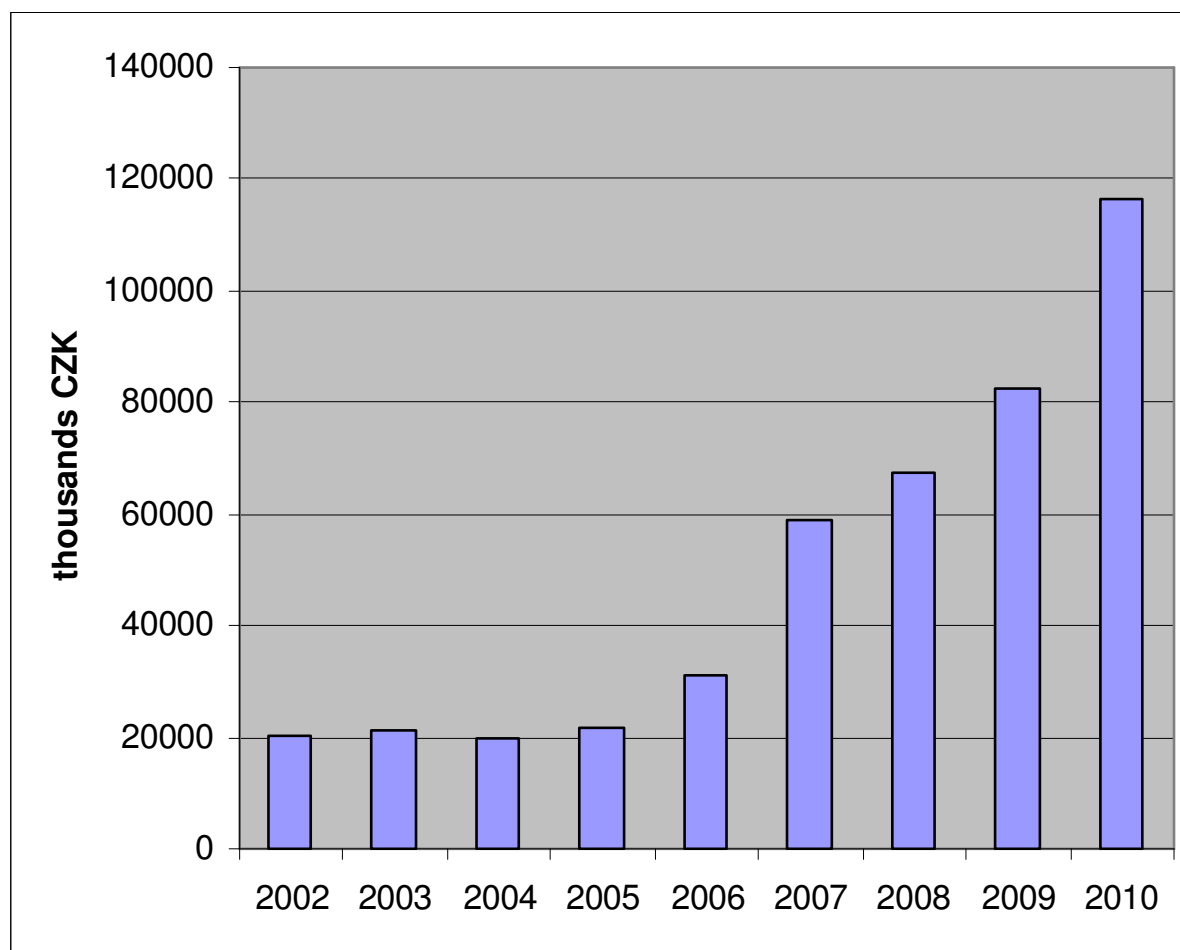


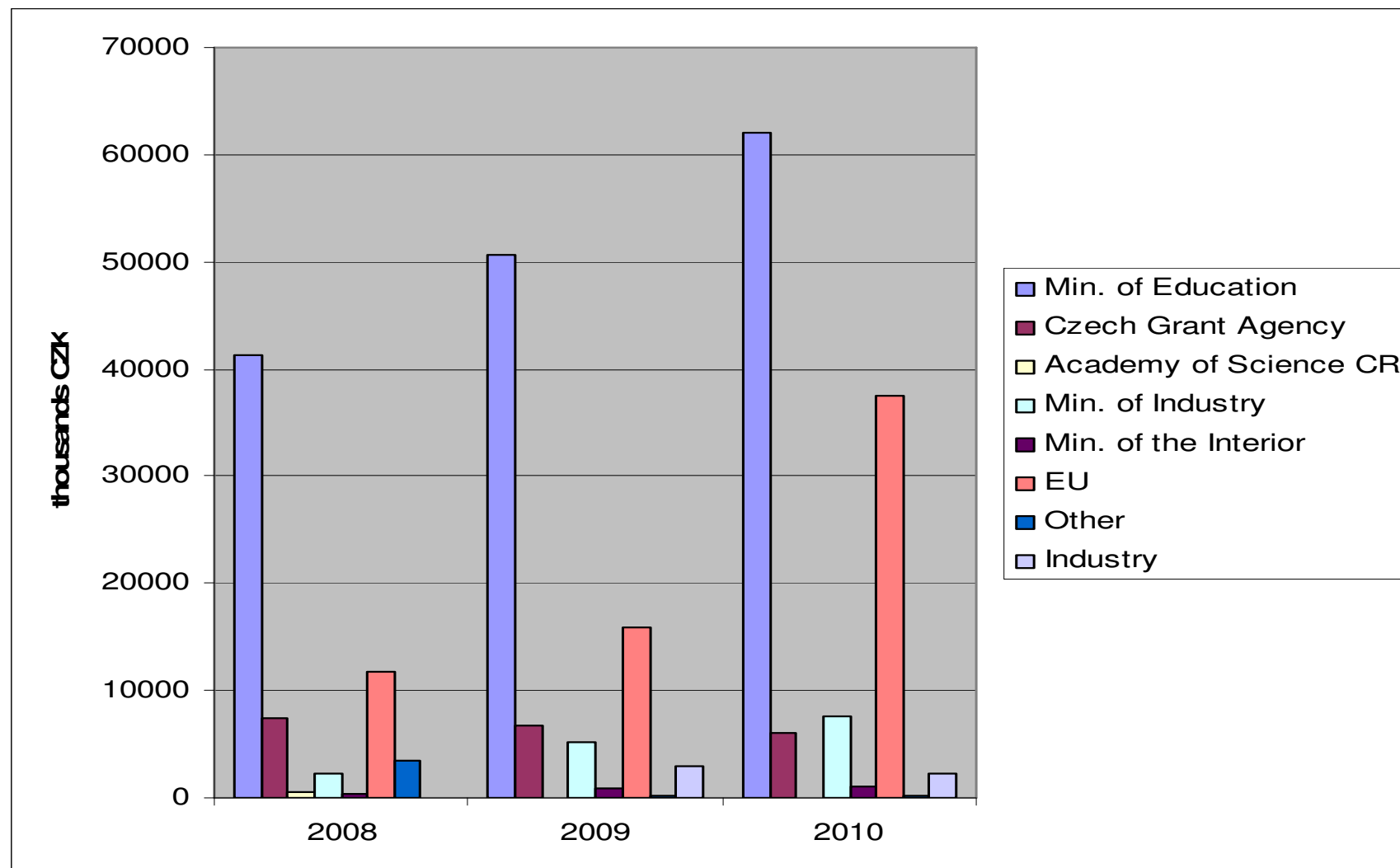
main lecture hall from outside











Thank you for your attention!

