



CENTRE FOR
INTERNATIONAL
COOPERATION
Masaryk University



centrum centre
zahraniční for international
spolupráce cooperation

Martin Bareš, vice-rector for academic affairs, Masaryk University

The City of Brno:

- 2nd largest city in the Czech Republic
- population of approx. 400 thousand
- 5 public universities:
 - Masaryk University
 - Brno University of Technology
 - Mendel University
 - University of Veterinary and Pharmaceutical Sciences
 - Janáček Academy of Performing Arts
- 1 state university
 - University of Defense
- 6 minor private HE institutions
- nearly 80 thousand university students
- „Silicon Valley“ of the CR



Cathedral of Saints Peter and Paul



Masaryk University today:

- second oldest Czech university
- second largest Czech university
- more than 35 thousand students (as of October 31, 2015)
- more than 20 % international students (as of October 31, 2015)
- more than 180 thousand alumni since 1922
- graduates' unemployment rate inferior to 2 %
- graduates' satisfaction rate of 85 %



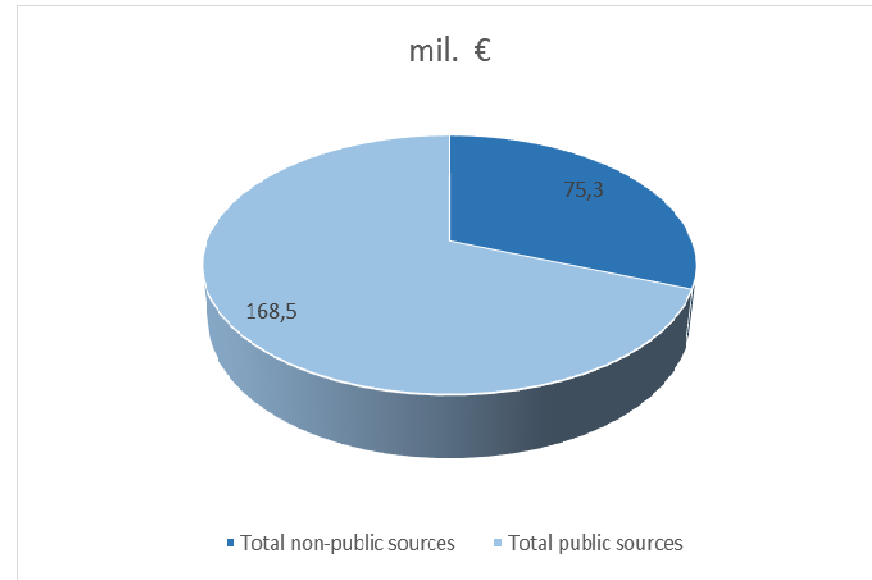
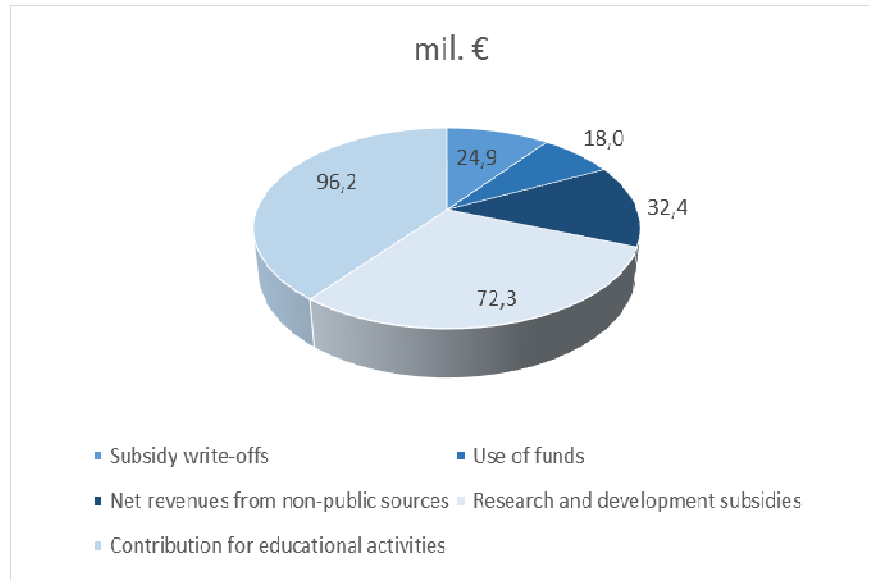
Masaryk University today:

- Times Higher Education World University Rankings 2016-2017: 601--800
- Times Higher Education BRICS & Emerging Economies Rankings 2016 83
- QS World University Rankings® 2015-2016: 551-600
- QS University Rankings - EECA 2016: 10



Masaryk University today:

- 5 150 employees (as of June 28, 2016)
- approx. 2 250 pedagogical staff (as of June 28, 2016)
 - Professors: 264
 - Associate Professors: 458
 - Assistant Professors: 1027
- the largest employer in the region of South Moravia

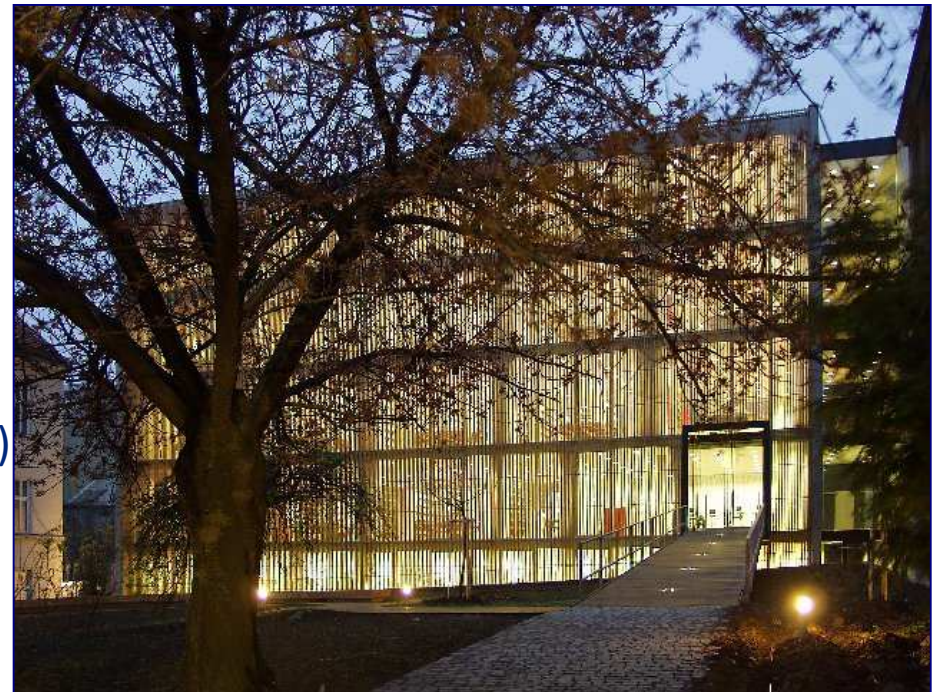


Masaryk University today:

- 2015 budget of approx. 240 million EUR (non-investment resources only)
- the most successful university in the CR in attracting European investment funding

Structure:

- 9 faculties, over 200 departments:
 - Law (1919)
 - Medicine (1919)
 - Science (1919)
 - Arts (1919)
 - Education (1947)
 - Economics and Administration (1990)
 - Informatics (1994)
 - Social Studies (1998)
 - Sports Studies (2002)



Faculty of Arts – library
(Grand Prix for Architecture 2002)

Teaching:

- more than 1300 study programmes in law, clinical, pre-clinical medicine, dentistry, life sciences, Earth sciences, liberal arts and humanities, philology, educational sciences, economics and administration, ICT and technology, social sciences, sports
- ECTS and DS labels
- ±2000 outgoing and ±1000 incoming students every year
- no. 4 in the EU with 44 Erasmus Mundus projects
- at least 200 visiting teachers every year



The EAIE award for innovation in internationalization (2012)

Research:

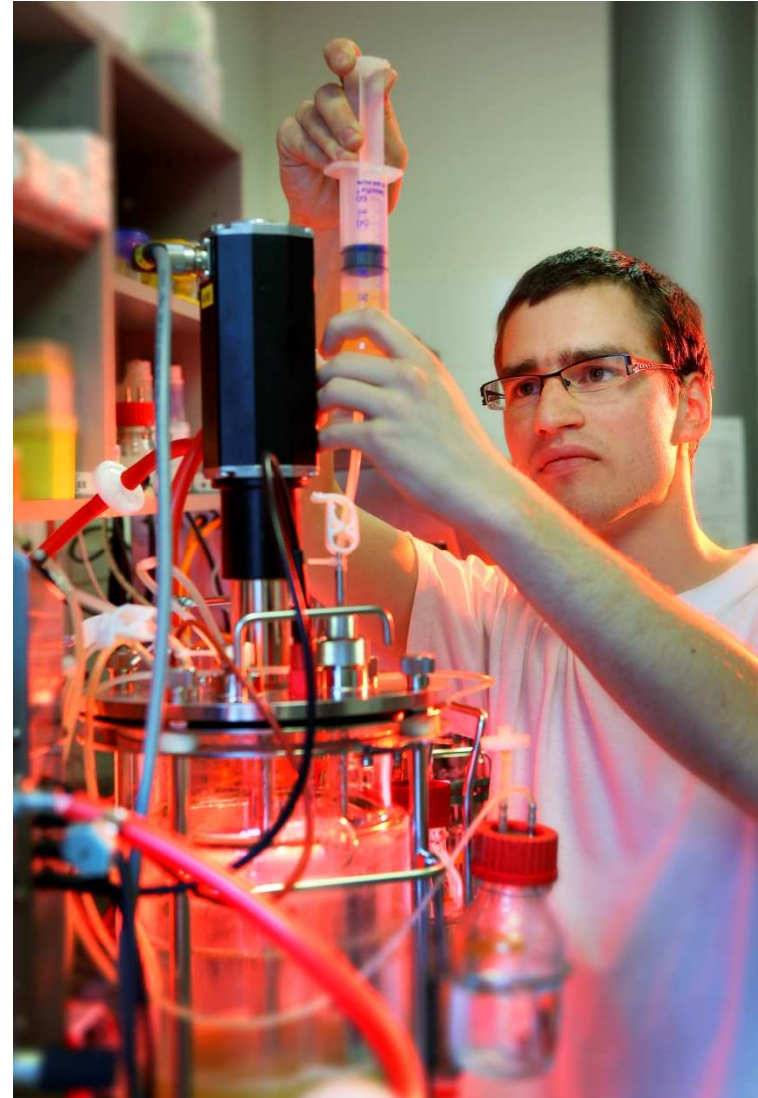
- no. 3 in research in the CR after the Academy of Sciences and Charles University
- about 1000 original research papers with IF each year
- recent papers published in e.g.:
 - Nature • Nature Genetics
 - Science • Cell
 - Plant Cell • Genes & Development
 - Angewandte Chemie • Cancer Research
 - Stem Cells
- excellent infrastructure and growing international faculty



Masaryk University Presidency building

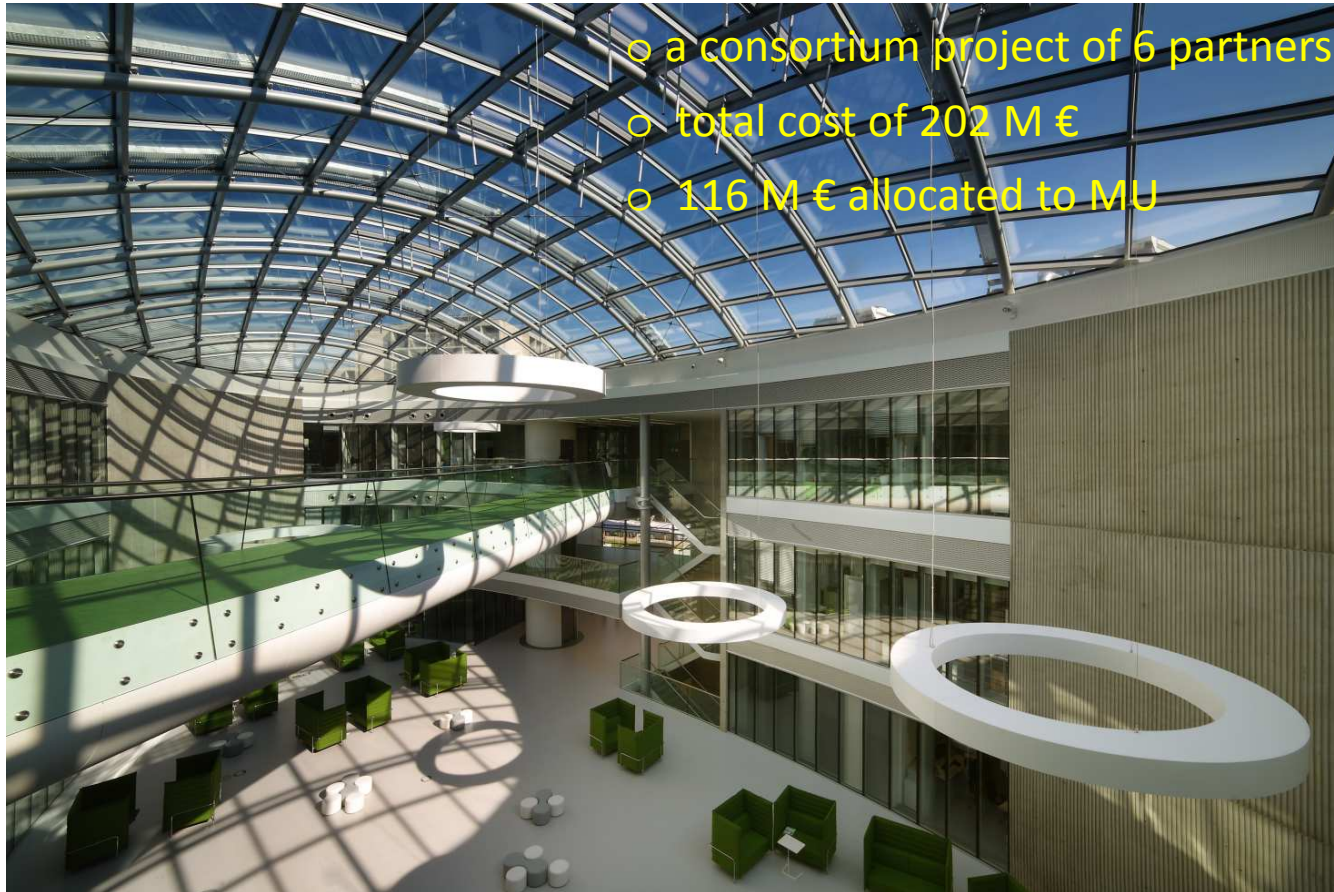
Top research in:

- biochemistry and molecular biology
- cancer research (diagnosis of leukemia)
- neuroscience
- structural biomolecular research and protein engineering
- stem cell research and developmental biology
- environmental chemistry
- ecotoxicology
- parasitology
- plant sciences
- zoology
- theoretical physics and astrophysics
- computer science (cyber and network security)
- mathematics
- social sciences



Research infrastructure:

Central European Institute of Technology (CEITEC)



CEITEC Masaryk University

7. Molecular veterinary medicine

6. Molecular medicine

5. Brain and mind research

~40 research groups,
focus on life sciences



1. Advanced nanotechnologies
and microtechnologies

2. Advanced materials

3. Structural biology

4. Genomics and proteomics
of plant systems

CEITEC at Masaryk university

- Since 2010 / fully operational from 2014
- 35 research groups
- 25,000 m² of new laboratories
- International environment
- State of the art infrastructure – 9 core facilities as a part of national and international infrastructures
- funding: European Regional Development Fund

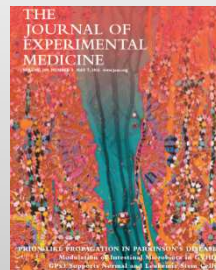
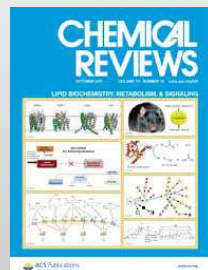
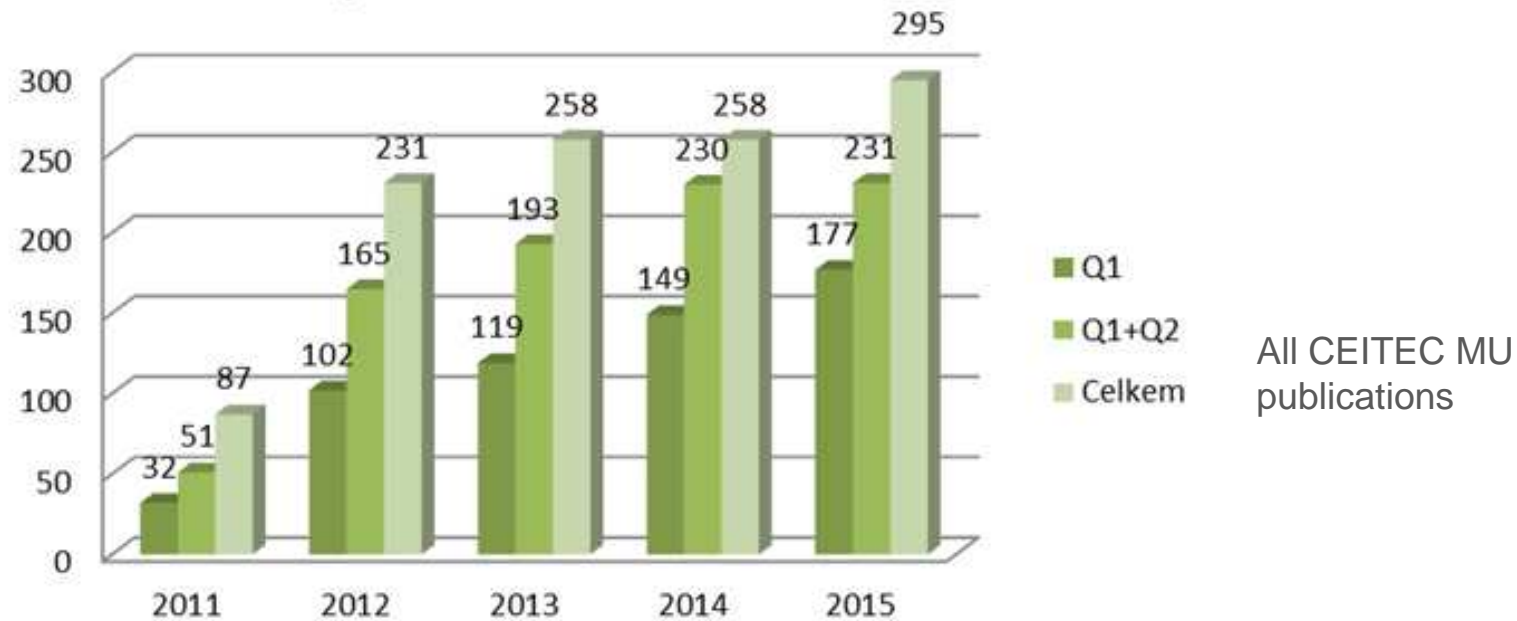


Main research topics at CEITEC MU

- Structural Biology
- Genomics and Proteomics of Plant Systems
- Molecular Medicine
- Brain and Mind Research
- Advanced Nanotechnologies and Microtechnologies

www.ceitec.eu

Scientific publications 2011 - 2015



2015 - Blood (2x), Embo Journal (1x), Leukemia (4x) Plant Cell (1x), Chemical Science (3x), Nucleic Acid Research (8x)....

Funding

Prestigious and strategic projects

ERC grants

Pavel Plevka (2013)
FP7-ERC-StG – PicoStructure
Richard Štefl (2015)
H2020-ERC-CoG – DECOR



EMBO Installation Grants

Lukáš Trantírek (2012)
Karel Říha (2013)
Pavel Plevka (2014)
Peter Lukavsky (2014)



SYLICA (FP7-Research Potential) 2012-2015

Synergies of Life and Material Sciences to Create a New Future
budget 3,928 M EUR



ERA Chair (FP7-Widening Participation) 2014-2018

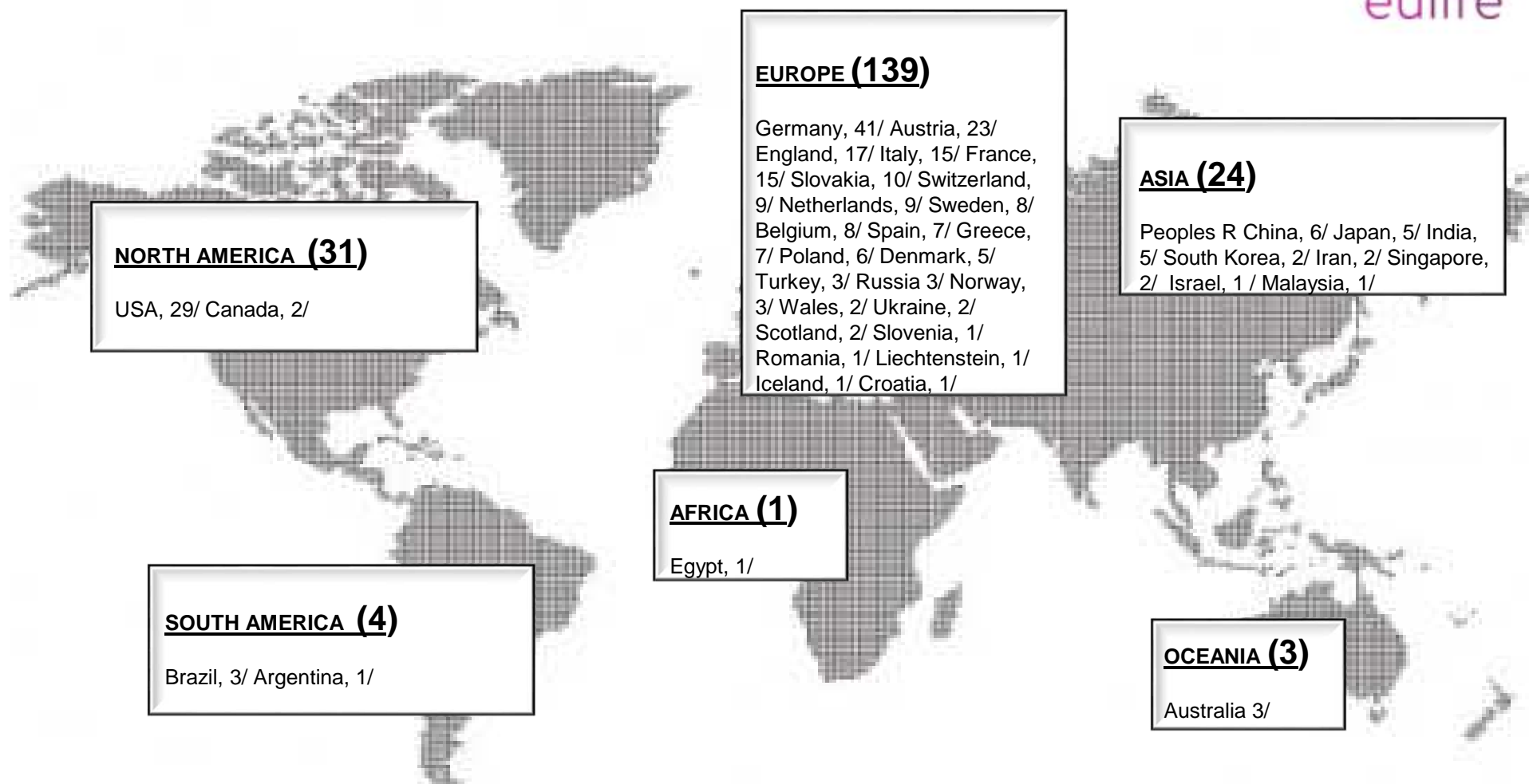
The ERA Chair Culture as a Catalyst to Maximize the Potential of CEITEC
budget 2,246 M EUR
ERA Chair Mary O'Connell



Research infrastructures (Czech Road map) 2015-2020

5 projects recommended to funding 2016-2022,
4 infrastructures bound to ESFRI



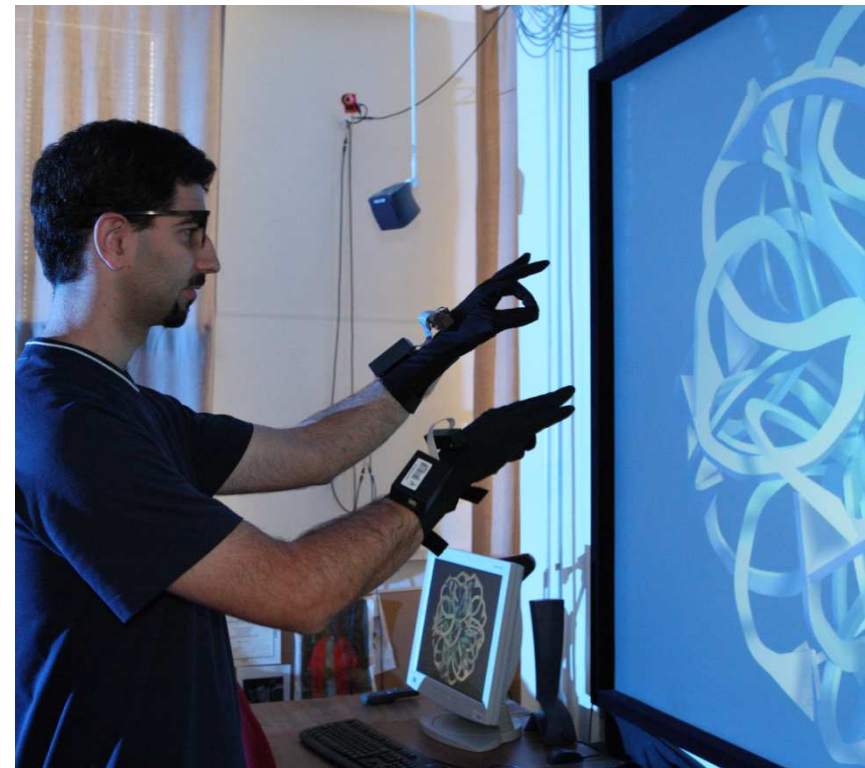


Numbers show the volume of publications arisen within collaboration between CEITEC MU and research groups from the other countries and continents.

- Research Centre for Toxic Compounds in the Environment (RECETOX)
 - environmental chemistry and human health risks
 - enzyme engineering
 - trace concentrations of chemicals
 - GENASIS: Global ENVIRONMENTAL Assessment Information System
 - ELSPAC: European Longitudinal Study of Pregnancy and Childhood
 - CETOCOEN: toxic compounds (21 M €)
 - recent patent on hydrolytic destruction of mustard gas
- Centre of Experimental, Systematic and Ecological Biology (CESEB)
 - grant of 31 M €



- Centre for Research, Education and Innovations in IT (CERIT)
 - scientific cloud computing and scientific park for ICT spin-off companies
- Centre for Research on Cryptography and Security (CROCS)
 - computer network security (wireless sensor networks, metallic networks)
 - smart card security & cryptographic applications
 - Cryptography
- Cybernetic polygon (KYPO)
 - services & infrastructure for research and education in the field of cyber security
 - simulation of cyber attacks
 - detection of attack, termination of attack, protection against attack
 - virtual networks according to the customer's needs



New campus for life sciences – unique in Central Europe

- total cost of 206 million EUR
- <http://www.muni.cz/kampus>



Miscellanea:

University cinema Scala



Miscellanea:

MU is probably the only university in the world to run its own polar station



Miscellanea:

Mendel Museum





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Die Entwicklungskraft ist unbestritten eine Kombination
von der beiden Entwicklungskräften für die Merkmale
B und b gleichmäßig verbunden sind. Man erfüllt die
Prinzip vollständig durch die Kombination der Erbsen

$A + 2Aa + a$

$B + 2Bb + b$

Thank you for your attention



Gregor Johann Mendel
(1822-84)

Zweiter Versuch:

ABC Pflanzungen

A. Erbsen rein

B. Erbsen gelb

C. Erbsen grün

abc Pflanzungen

a. Erbsen rein

b. Erbsen grün

c. Erbsen weiß

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