



Central European Institute of Technology  
BRNO | CZECH REPUBLIC

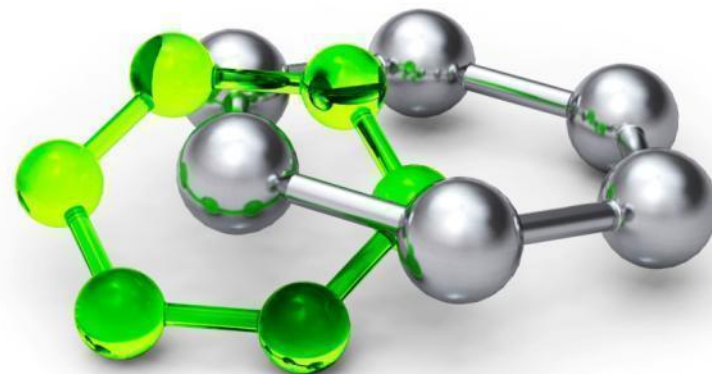
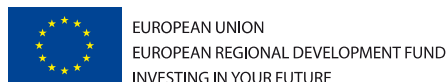
# Synergies Case Study – CEITEC Masaryk University

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ELIXIR CZ Board Head

Brno, Oct 8-9, 2015

Technical assistance by Dr. Zlataše Novotná and Jana Šilarová



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# CEITEC – Central European Institute of Technology



*CEITEC is a scientific consortium in the **fields of life sciences, advanced materials and technologies** whose aim is to establish itself as a recognized European center of science.*



# CEITEC project 2011-2015

- **6** partners
- **557** researchers (2015)
- **7** research programmes
- **61** research groups
- **Buildings** (including parcels): 61 mil. EUR
- **25,000 m<sup>2</sup>** of new laboratories including **10 core facilities**: 105 mil. EUR
- **Start-up grant**: 42 mil. EUR
- **Total budget** (eligible cost): **208 mil. EUR**



EUROPEAN UNION  
EUROPEAN REGIONAL DEVELOPMENT FUND  
INVESTING IN YOUR FUTURE



**OP Research and  
Development for Innovation**

# CEITEC Life Sciences labs



**Campus of  
Masaryk University**



Photos of Zdeněk Náplava

# CEITEC Material sciences labs



**Campus of Brno  
University of Technology**

**Czech  
Technological  
Park**



# Research Programmes

7. Molecular Veterinary Medicine

6. Brain and Mind Research

5. Molecular Medicine

1. Advanced Nanotechnologies  
and Microtechnologies

2. Advanced Materials

3. Structural Biology

4. Genomics and Proteomics of Plant Systems



# Core Facilities – Open Access



**NMR** - 950 MHz (liquid), 850 MHz (liquid), 2 x 700 MHz (liquid and solid), 600 MHz (liquid), 500 MHz (liquid and solid)

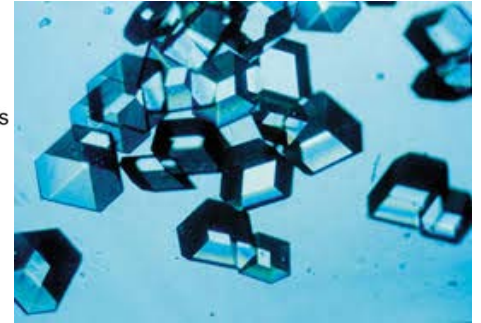
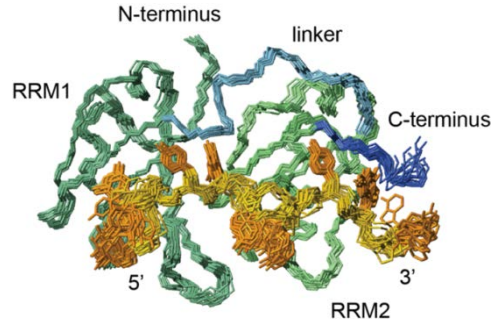
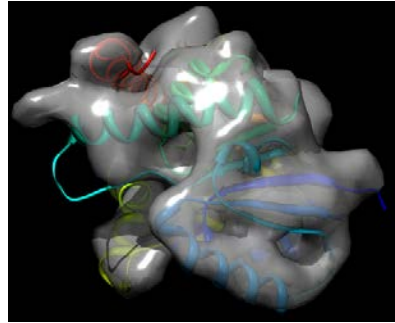
**Cryo-Electron Microscopy** – High-throughput FEI Titan Krios 300kV, FEI Tecna 200kV



**Single Crystal X-ray Diffraction** – Rigaku BioSAXS robotized diffraction system



# Core Facilities



**MRI**

Resolution 0.25 mm

**Cryo-EM**

High resolution  
Complex structures

**NMR**

Solid and Solution  
state

**X-ray diffraction**

Crystal state

# Phase I. (from 2005): Strategic preparation for Programming period 2007-2013



**Regional  
consensus**



**RIS2**

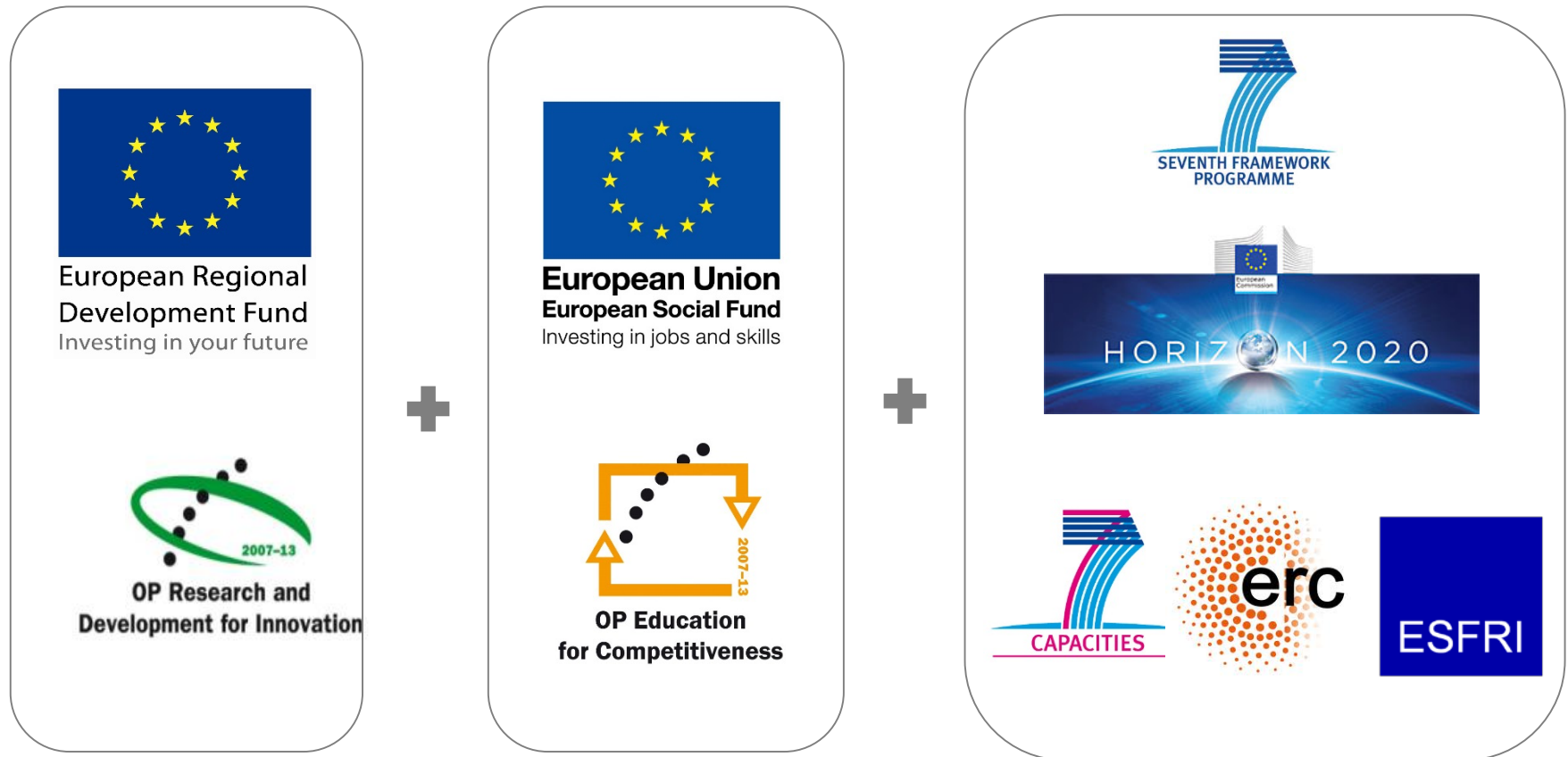
2005-2008

 **CEITEC**

# Phase II. (from 2011): Research Infrastructure & Capacity building

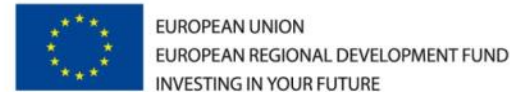
**RIS** 2009-2013

## Synergy of European Funds



# Phase II. (from 2011): CEITEC & SYLICA

## Complementary funding



<b>CEITEC – ERDF (2011-2015)</b>	<b>EUR (mil)</b>
Buildings (including parcels)	61
Equipment (core facilities and other laboratories)	105
Start-up grant	42
<b>Total</b>	<b>208</b>

<b>SYLICA – FP7 Capacities (2012-2015)</b>	<b>EUR (mil)</b>
Personnel cost (incoming researchers)	2.7
Travel and subsistence	0.9
Miscellaneous cost (international conferences)	0.1
Indirect cost	0.3
<b>Total</b>	<b>3.928</b>



# Phase III. (from 2015): Research excellence and sustainability

**RIS**4 2014-2020

## Synergy of EU and national funding



# CEITEC Achievements



**Quartile 1 publications increase  
21% in 3 years**



**European Research Council**

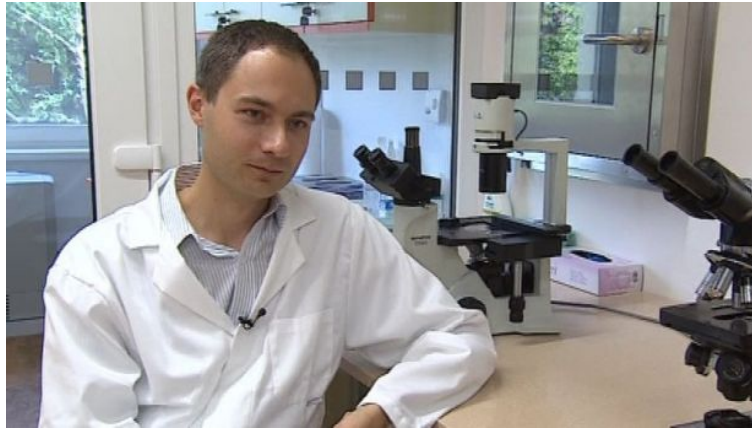
Established by the European Commission

**First two CEITEC ERC grants**



**ERA Chair Grant**

# Holders of most prestigious grants



***Pavel Plevka***  
*FP7-ERC-StG-2013 – PicoStructure*



***Mary O'Connell***  
*FP7-ERACHairs-Pilot Call-2013*



***Richard Štefl***  
*H2020-ERC-CoG-2015 – DECOR*

# SYLICA partnership

Imperial College  
London

**ETH**

Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

EMBL



## ESFRI projects



EURO-BIOIMAGING



## EU-LIFE association



- 13 top research institutions
- 7,867 employees (researchers, administration)
- 512 research group leaders
- 2,816 publications
- 61 coordinated FP7 grants
- 79 ERC grants



# International Recruitment

**Foreign employees**

Research programme	Long-term stay			Short-term stay			TOTAL
	EU	outside EU		EU	outside EU		
	+	-		+	-		
Advanced Nanotechnologies and Microtechnologies	4	4	8	0	0	0	8
Advanced Materials	2	0	2	0	0	0	2
Structural Biology	13	3	16	29	13	42	58
Genomics and Proteomics of Plant Systems	18	3	21	1	0	1	22
Molecular Medicine	2	1	3	0	2	2	5
Brain and Mind Research	1	1	2	0	1	1	3
Molecular Veterinary Medicine	0	2	2	0	0	0	2
CEITEC administration	0	1	1	0	0	0	1
<b>Sum total</b>	<b>40</b>	<b>15</b>	<b>55</b>	<b>30</b>	<b>16</b>	<b>46</b>	<b>101</b>

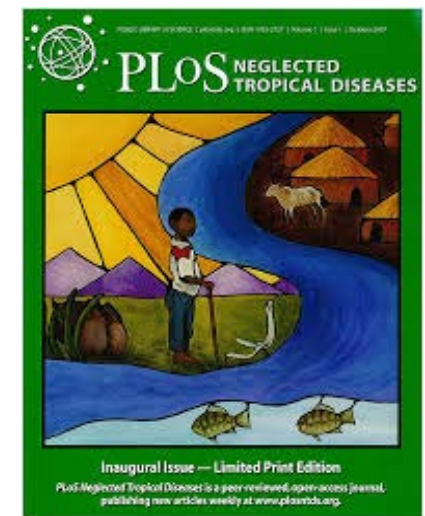
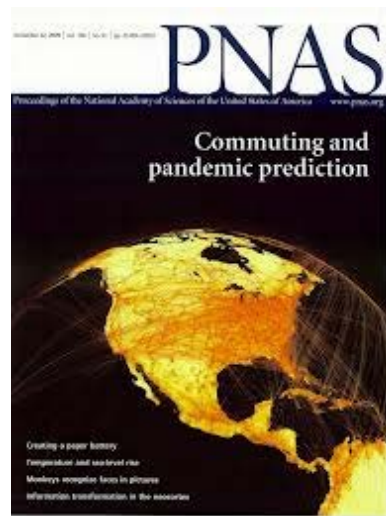
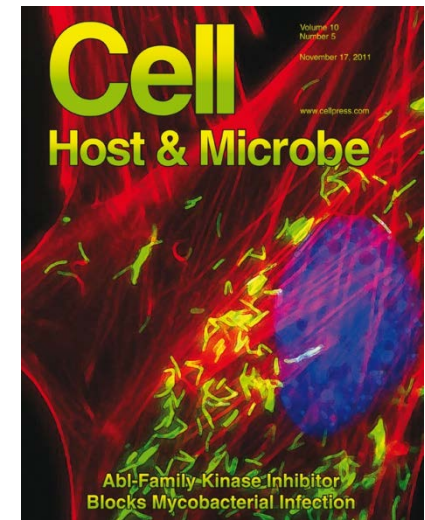
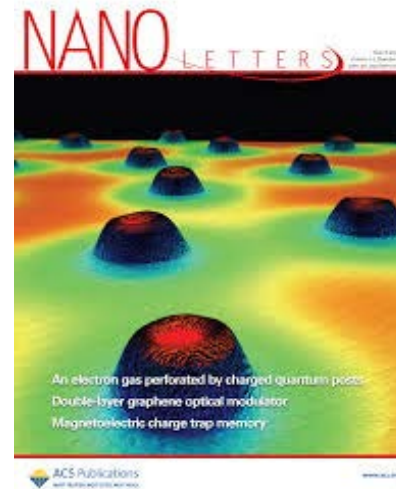
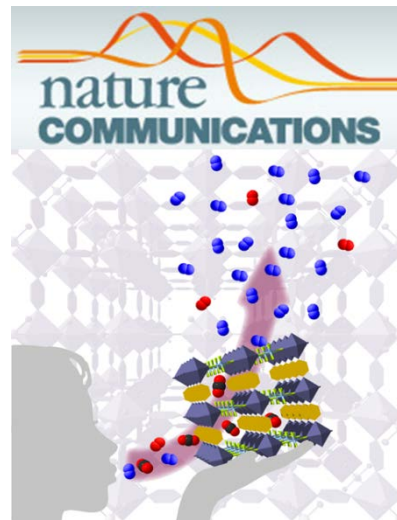
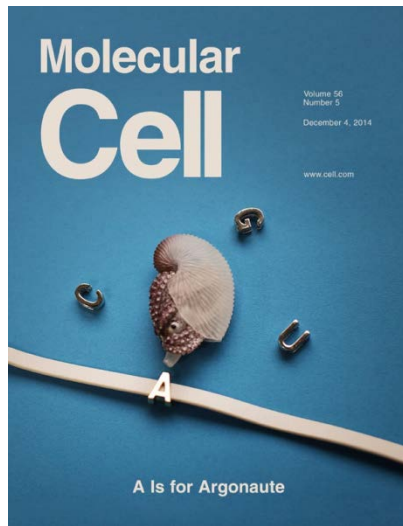
# Measuring Success Against Global Standards



**Board consists solely of Western European and US Members**

**Evaluation Sept. 2014 based on past performance, vision plan,  
and laboratory visit**

# Recent CEITEC Publications



# Thank you for your attention



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