



Palacký University
Olomouc

Genius loci ...

ANNEX 3

RESEARCH & DEVELOPMENT (R&D)

January 2018

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Research topics

Faculty of Science

- Mathematical models and structures
- Theory and algorithms for information processing
- General problems of linear statistical induction of data with special structure
- Applied physics – specialization in nanomaterials
- Applied physics – specialization in instrumental physics
- Biophysics
- Modern optics
- Quantum optics and quantum processing of information
- Didactics of science fields
- Synthesis, characteristics and study of application possibilities of complex compounds of some transition metals
- Structure and dynamics of biomolecules
- Development of new synthetic methods for preparation of biologically active compounds
- Synthesis, characterization and application of nanomaterials
- Analysis of substances in complicated matrixes
- Use of solid-phase synthesis in the synthesis of novel heterocyclic scaffolds originated from sulfonamides
- Study of regulatory roles of enzymes and other proteins in key metabolic processes
- Biodiversity of plants and their interactions with environment on different functional and taxonomic levels
- Molecular cell biology of plants
- Study of biosynthesis of plant secondary metabolites
- Plant proteomics
- Optimization of landscape utilization
- Ecological processes in terrestrial populations and communities
- Microbial processes in flowing waters with focus on methane production and consumption
- New technologies of phytohormone analysis in plants
- Study of human cancer and non-cancer cell reaction on DNA damage in different genetic backgrounds
- Study of molecular mechanisms of cytokinin actions
- New growth regulators for biotechnological and biomedical applications
- Transcriptional-regulatory mechanisms of enzymes metabolizing drugs
- Effect of genotoxic substances on genome stability
- Role of deubiquitinating enzymes in response to DNA damage
- Reproduction strategy of animals
- Evolutionary ecology of birds
- Molecular phylogenesis of selected beetle groups
- Regional and environmental aspects of Czech development co-operation

- Spatial systems: development, analysis and visualization
- Geological processes and geofactors of environment on contact of the Bohemian Massif and the West Carpathian Mountains
- Integration of sensor networks, contactless monitoring and advanced visualization in landscape study

Faculty of Medicine and Dentistry

- Malignant diseases research
- Molecular basis of diseases
- Cellular targets and interactions of chemical compounds
- Neurodegenerative disorders research
- Cardiovascular disorders research
- New methods and technologies in orofacial system

Faculty of Law

- Law and Society

Faculty of Arts

- Philosophy
- - Czech Literature, Czech Language
- - General Linguistics
- - English and American Literature, English Language
- - German Literature, German Language, Jewish Studies
- - Dutch Languages and Literature
- - Romance Languages and Literature
- - Slavonic Languages and Literature
- - Chinese, Japanese, and Asian Studies
- - Classical Philology
- - Czech and World History, Auxiliary Sciences of History, Archeology
- - Clinical and Educational Psychology
- - Political and European Studies
- - Sociology, Andragogy, Anthropology, and Cultural Anthropology
- - Media and Cultural Studies, Journalism
- - Applied Economics
- - Theory and History of Music, Literature, Theatre, TV, Radio, and Film
- - Theory and History of Fine Arts
- - Faculty of Arts of Palacký University: History and Current Challenges

Sts Cyril and Methodius Faculty of Theology

- Theology
- Philosophy
- Social work

- Education and psychology

Faculty of Health Sciences

- Screening of preeclampsy and intrauterine growth restriction risks
- Monitoring of habitual physical activities during a physiological gravidity
- Family members' experience in care of dying relative in home care
- Self-management in chronic diseases
- Nutrition in patients with acute and chronic diseases
- Education of non-medical health professionals
- Cognitive movement rehabilitation
- Postural breathing physiotherapy
- Evidence Based Practice in Physiotherapy
- Physiotherapy in the complex treatment of central paresis
- Evaluation of somatic state and movement activity in children and youth
- Diagnostics of atherosclerosis
- Therapeutical ultrasound
- Palliative care nursing and end-of-life care
- Epidemiology and nursing care in patients with neurodegenerative diseases

Faculty of Physical Culture

- Physical activity and healthy lifestyle
- Human movement in health and disease

Faculty of Education

- Natural scientific biological disciplines in the context of the educational proces
- Natural scientific anthropological, health-care, mathematical and technical disciplines in the context of the educational process.
- Artistic disciplines in the context of the educational proces
- Educational and special educational disciplines in the context of the educational proces
- Social scientific disciplines in the context of the educational proces
- Philological and linguistic disciplines in the context of the educational process

Support of R&D Activities

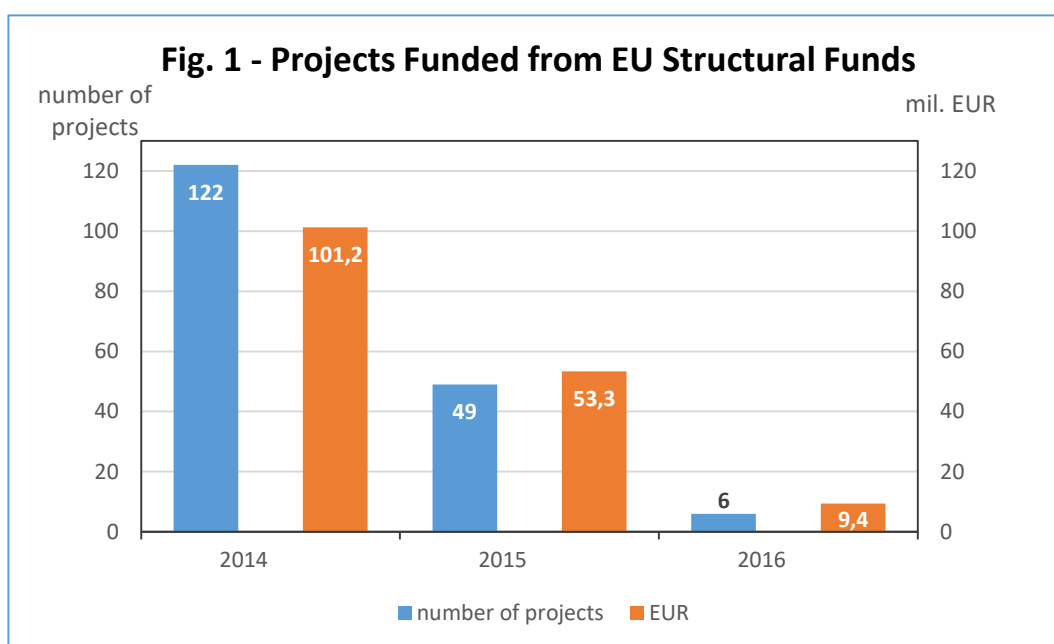
Central Project Evidence

¹ The total amount on projects funded in the respective year when UP participates in their investigation.

Tab. 1 Central Project Evidence									
(thousand EUR)									
		MC	MIT	CSF	MEYS	MH	MA	TACR	MI
2014	No. of projects	2	5	108	35	44	4	23	3
	Total on projects ¹	384	666	227,210	8,017	2,905	401	6,438	182
	UP share	39	287	4,386	2,139	1,557	62	1,940	116
2015	No. of projects	1	1	112	31	45	7	24	2
	Total on projects ¹	222	233	9,680	10,248	2,834	716	6,814	59
	UP share	31	93	4,906	3,928	1,493	120	1,841	25
2016	No. of projects	4	–	123	35	15	8	17	2
	Total on projects ¹	659	–	9,794	19,669	1,482	756	5,975	390
	UP share	301	–	5,386	6,319	745	144	1,619	270
UP Total (thousand EUR)									
				2014		2015		2016	
Number of projects				224		223		204	
Total on projects				18,993		30,806		38,725	
UP share				10,524		12,436		14,785	

Projects Funded from EU Structural Funds

Tab. 2 – Projects Funded from EU Structural Funds			
Programme	Year	Number of projects	Total subsidy (mil. EUR)
OP VK	2014	122	101.2
OP VK	2015	49	53.3
OP VVV	2016	6	9.4



Resources for Research Institution Development (RVO) and Specific Research (SR)

Tab. 3 – Resources for RVO and SR						
(thousand EUR)						
	2014		2015		2016	
	RVO	SR	RVO	SR	RVO	SR
FHS	16.4	9.9	18.8	11.7	26.6	12.4
FMD	3,175.7	773.5	2,484.4	758.8	2,713.1	705.6
FA	1,771.6	510.8	1,840.3	557.4	2,223.2	591.6
FS	7,312.4	1,346.9	7,659.8	1,400.3	7,922.6	1,415.5
FE	386.6	160.0	378.4	174.2	431.5	169.8
FPC	466.5	134.6	394.7	127.8	549.7	129.9
SCMTF	400.7	84.6	432.6	93.3	596.5	105.0
FL	303.7	102.9	371.1	117.1	456.6	127.2
All faculties in total	13,833.6	3,123.1	13,580.2	3,240.6	14,919.8	3,256.9
RUP	368.5	31.5	84.2	32.7	1,140.6	32.9
KUP			259.1		369.8	
VUP						
CVT			213.5		369.8	
VTP						
PS	8.6		10.1		14.3	
CP			740.0			
Central units and central resources in total	377.1	31.5	1,306.9	32.7	1 894.5	32.9
UP in total	14,210.7	3,154.7	14,887.1	3,273.3	16,814.3	3,289.8

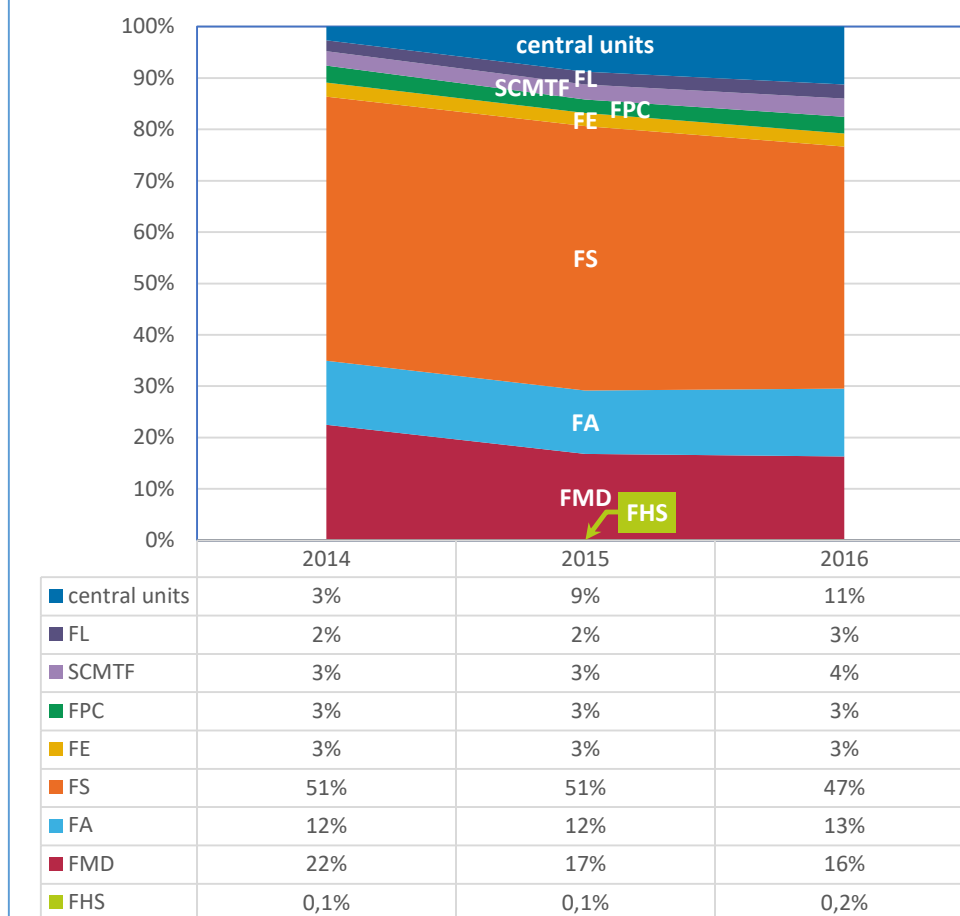
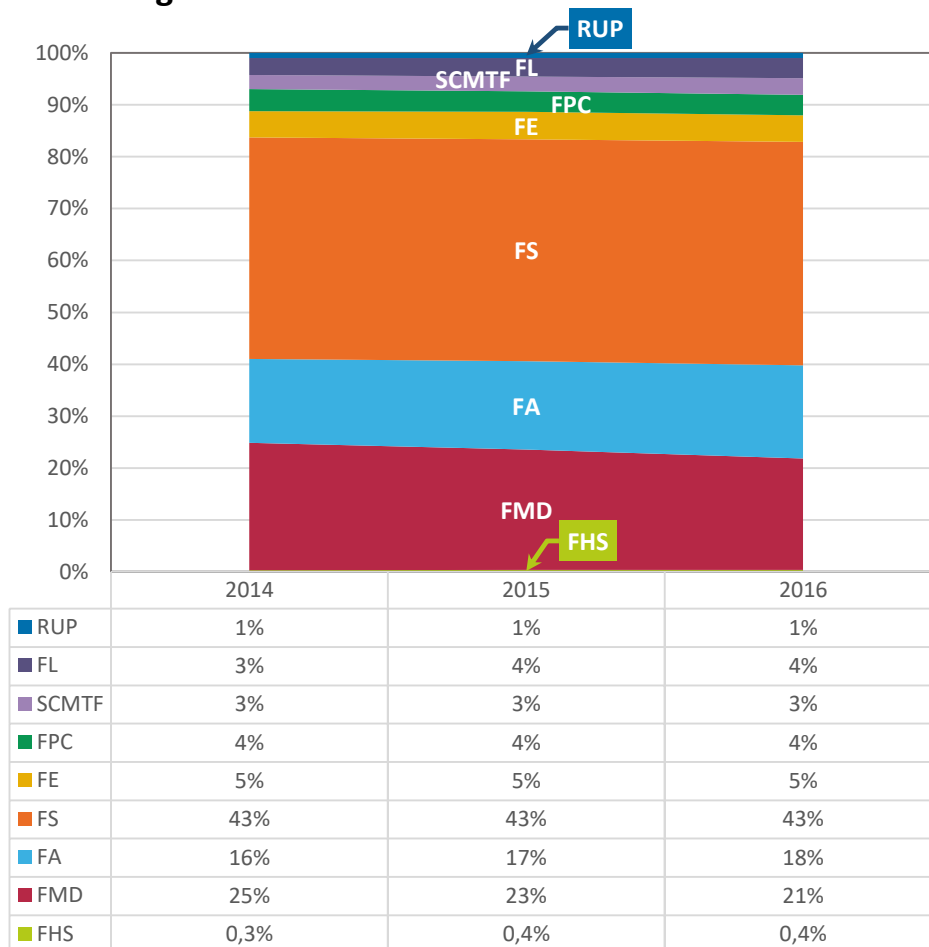
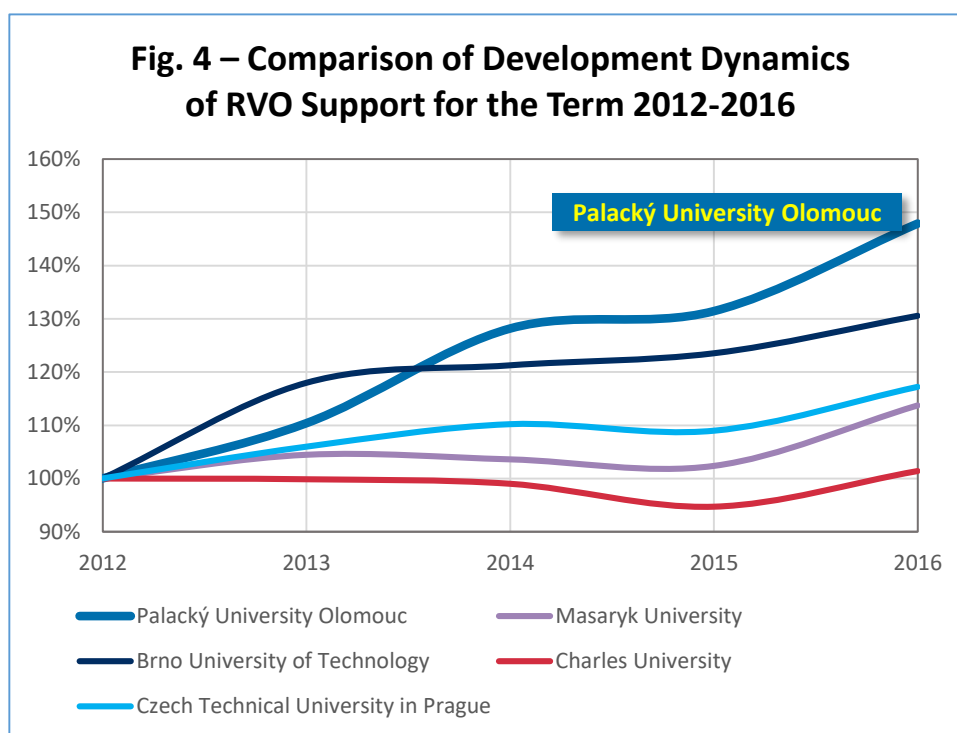
Fig. 2 - Distribution of RVO to the Individual UP Parts

Fig. 3 – Distribution of SR to the Individual UP Parts

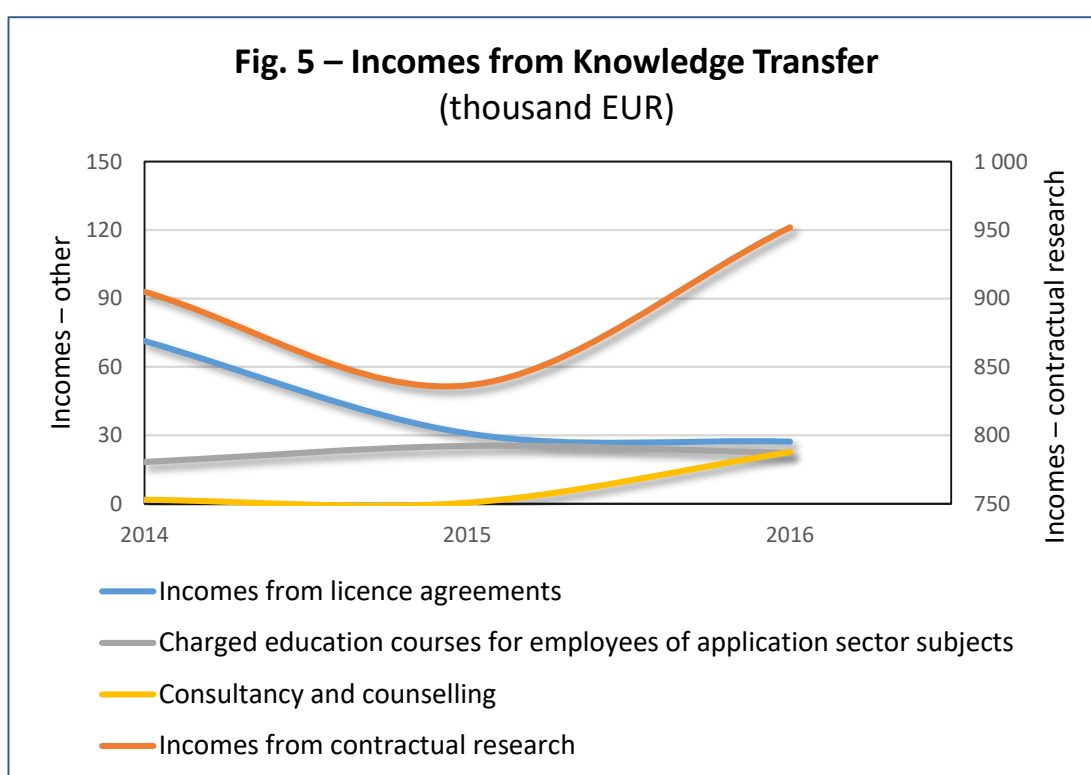
Development of RVO Support

Tab. 4 – Development of RVO Support					
Recipient	(mil. EUR)				
	2012	2013	2014	2015	2016
Czech Technical University in Prague	22	21	22	22	24
Masaryk University	21	20	19	20	22
Charles University	56	52	51	50	53
Palacký University Olomouc	12	12	14	15	17
Brno University of Technology	12	14	14	14	15



Transfer of Knowledge and Research Results into Practice

Tab. 5 – Transfer of Knowledge and Research Results into Practice			
	2014	2015	2016
Number of new spin-off/start-up enterprises	6	6	6
Number of patents granted	13	13	12
Number of utility models registered	5	19	10
Incomes from licence agreements (EUR)	71,281	30,895	27,291
Incomes from consultancy and counselling (EUR)	1 702	407	22,669
Incomes from contractual research	904,920	836,570	951,976
Incomes from charged education courses for employees of application sector subjects (EUR)	18,291	25,271	22,225



Assessment of R&D and Creative Activities

RIV Assessment

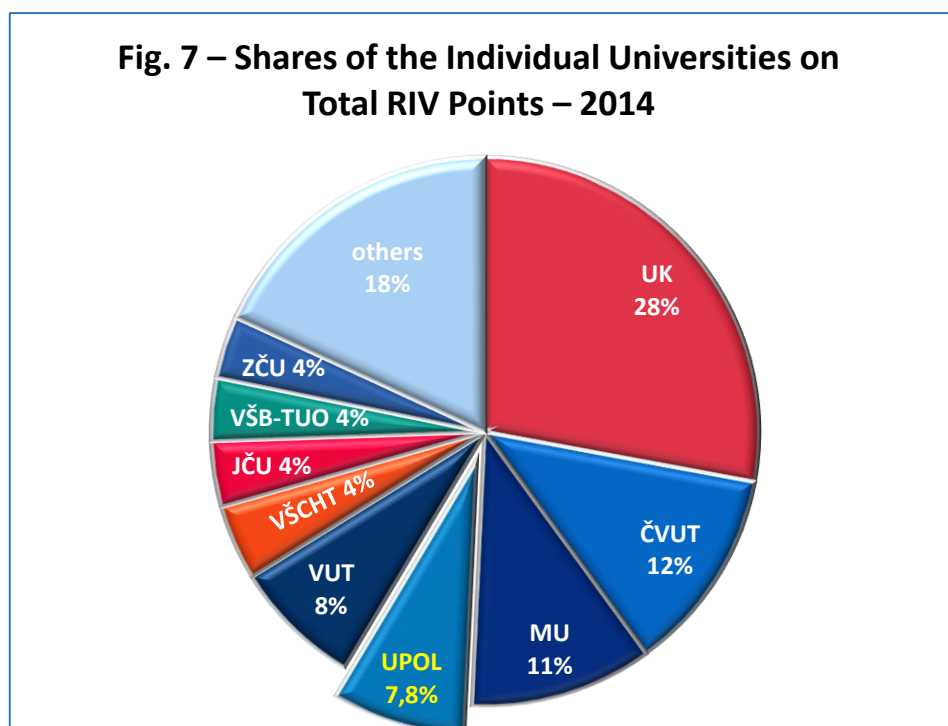
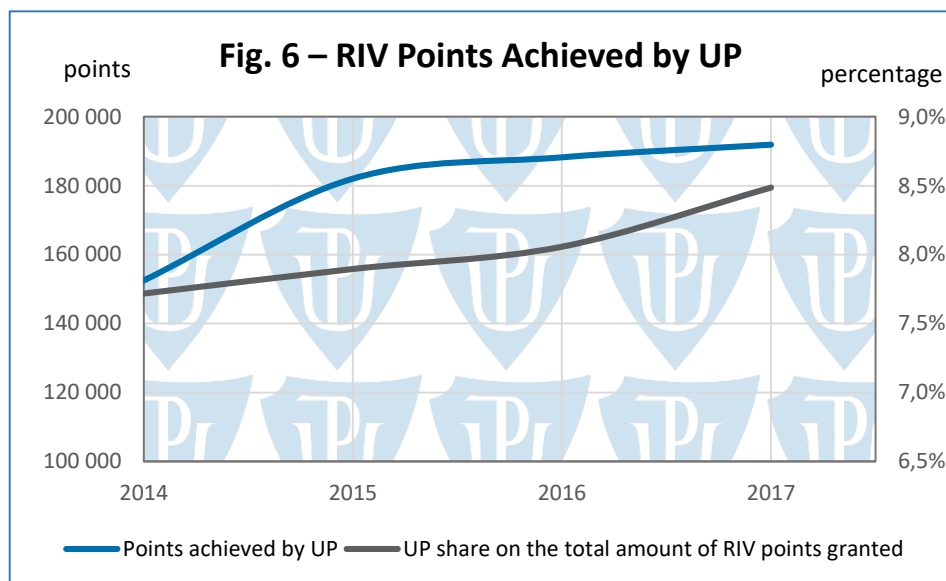


Fig. 8 – Shares of the Individual Universities on Total RIV Points – 2015

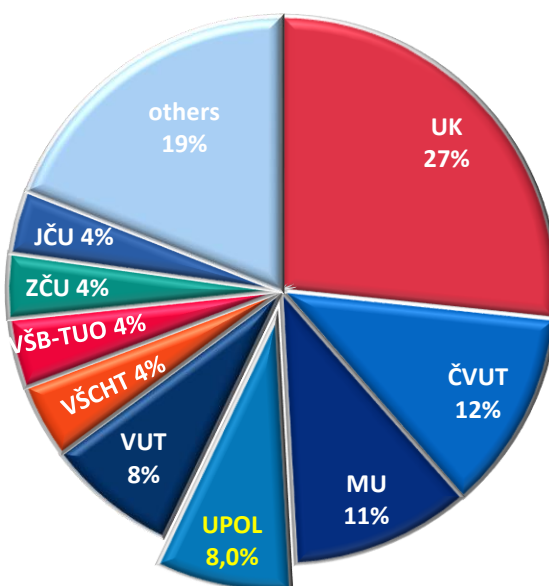


Fig. 9 – Shares of the Individual Universities on Total RIV Points – 2016

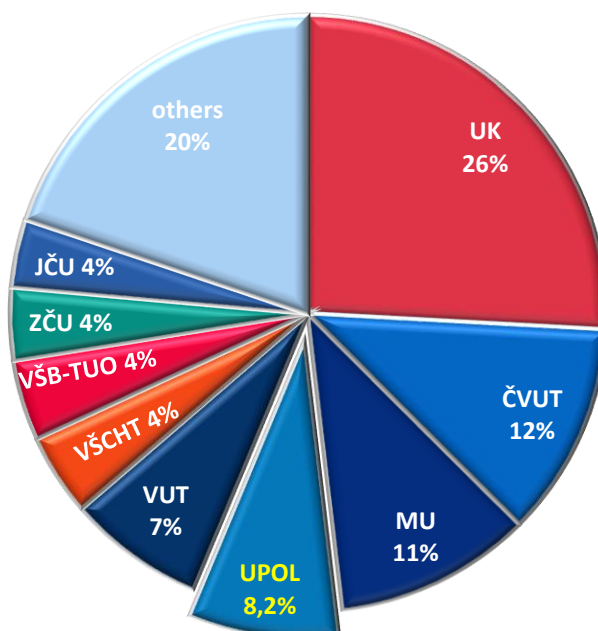
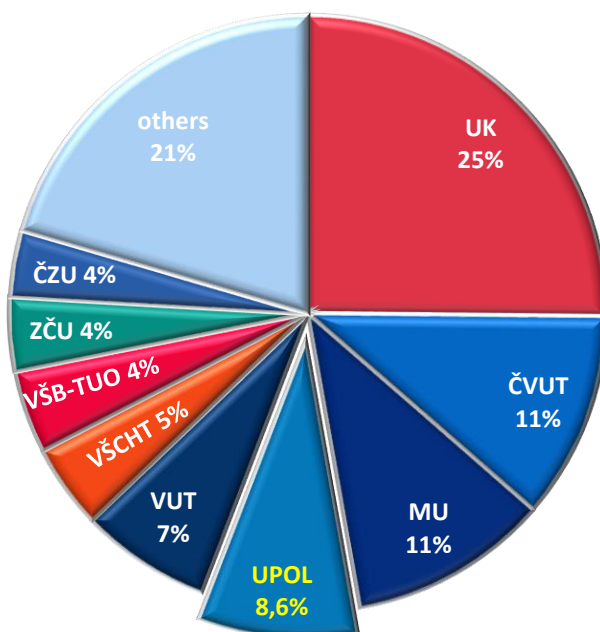
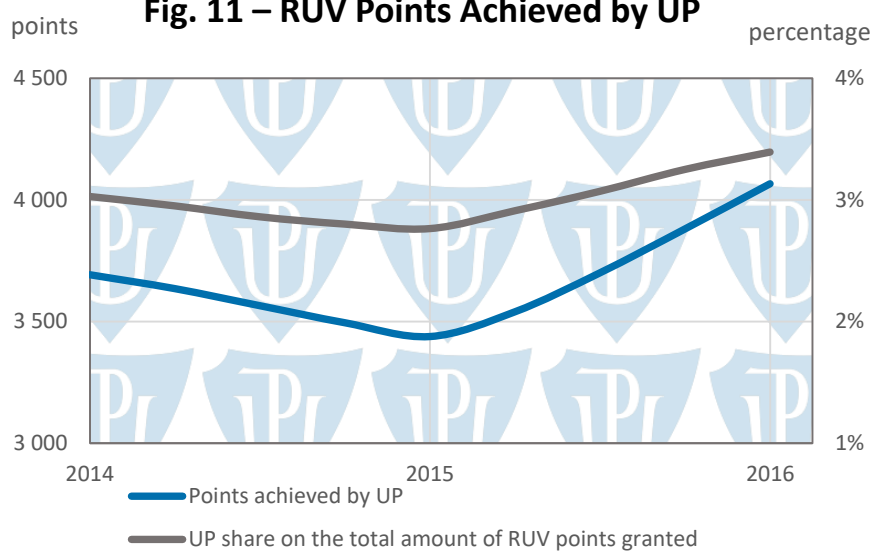


Fig. 10 – Shares of the Individual Universities on Total RIV Points – 2017



RUV Assessment

Fig. 11 – RUV Points Achieved by UP



Publication Activity

Publication Outputs According to WoS and SCOPUS in Terms of the Document Type

Tab. 6 - Publication Outputs According to WoS and SCOPUS in Terms of the Document Type			
Document type	Number of publications		
	2014	2015	2016
WoS			
Article	841	996	932
Review	56	61	53
Proceeding Paper	47	36	99
Meeting Abstract	107	127	82
Editorial Material	14	13	12
Letter	9	9	9
Book Chapter	13	19	8
Book Review			2
Scopus			
Article	865	1,048	1,073
Review	54	57	77
Article in Press	65	71	67
Conference Paper	75	62	52
Letter	10	7	11
Book Chapter	3	12	9
Editorial	6	9	8
Note			8
Erratum			6
Short Survey			1

Fig. 12 – WoS InCites – 5 Most Cited Fields

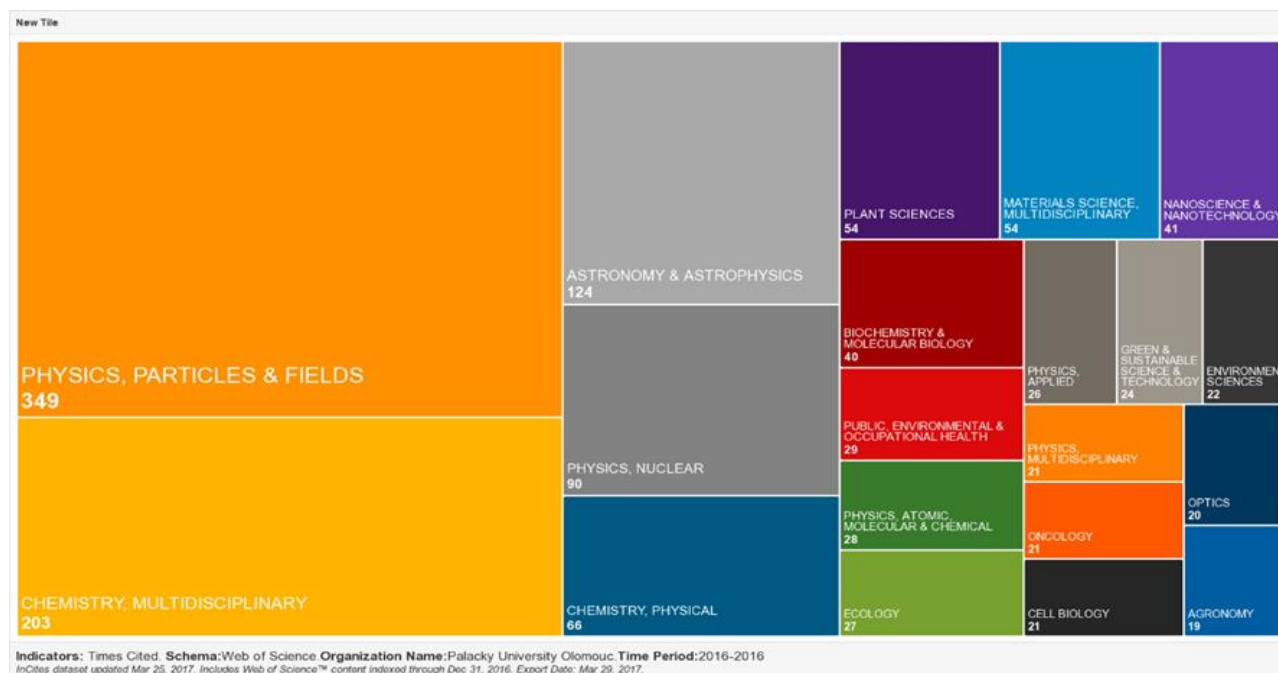


Fig. 13 – Most Cited Academic Periodicals in WOS InCites

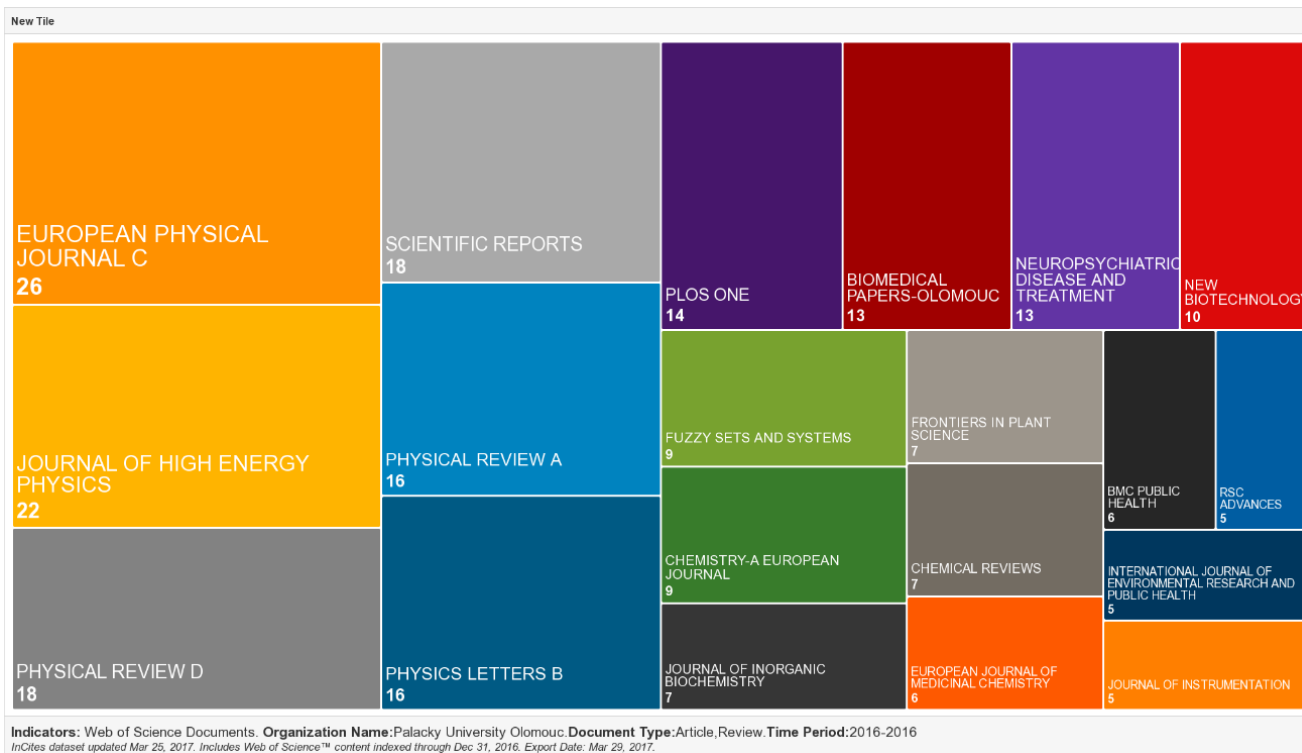


Fig. 14 – Countries Collaborating Most Frequently with UP regarding the Number of Results in WoS

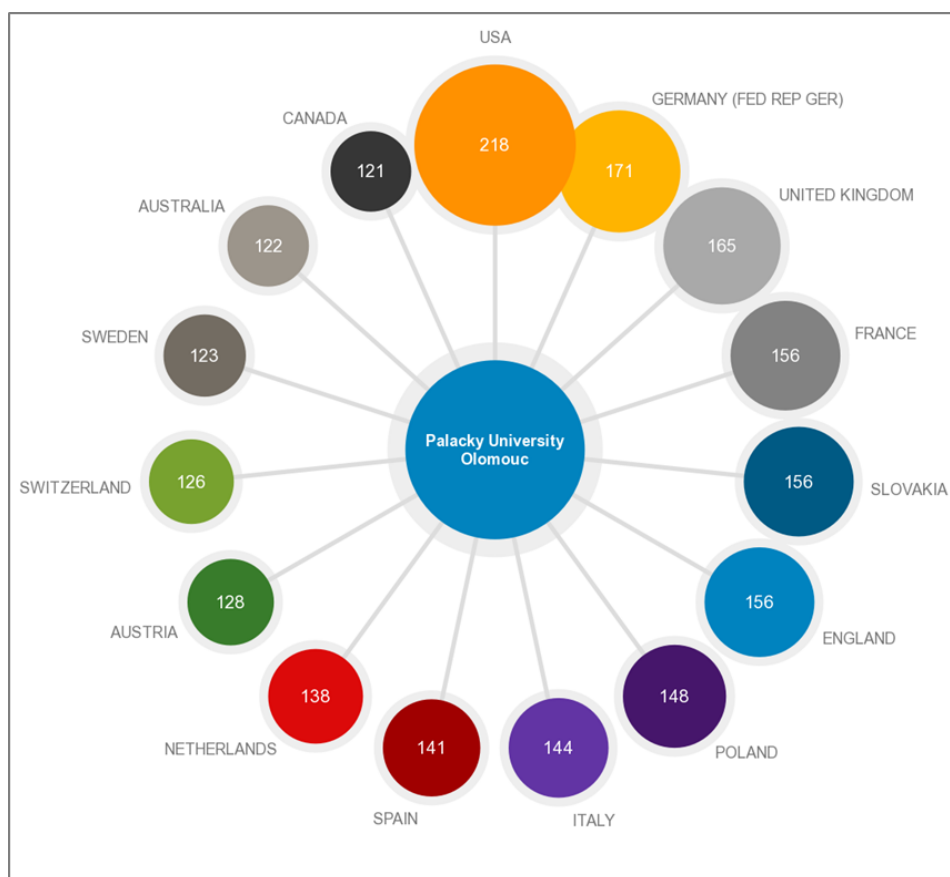


Fig. 15 – UP Collaboration with OECD Countries regarding Fields of Study and the Results in WoS

