

Research and development of biomaterials and production technologies used in treatment of bone defects					
The aim of this project is to create a reliable and effective method for development and production of individualized implants using modern diagnostics methods, CAD-CAM production technologies and new biomaterials, which enable the formation of functional bone – implant interface.					
Code	FR-TI3/587				
State providing funder	Ministry of Industry and Trade CR https://www.mpo.cz/en/				
Programme	FR - TIP (2009-2017)				
Total eligible costs	9 183 000 CZ				
Total project subsidy	7 136 000 CZ				
Subsidy FME TUL	2 792 000 CZ				
TUL project number	17940				
Contractor	LASAK s.r.o. https://www.lasak.com/				
Project participant	TUL, Faculty of Mechanical Engineering				
Principal investigator TUL	doc. Ing. Lukáš Čapek, Ph.D.				
Department	Department of Applied Mechanics http://www.fs.tul.cz/en/mechanics/mechanics-of-solid-phase/research-and-innovations/				
Period	2011-2014				
https://www.rvvi.cz/cep?s=jednoduche-vyhledavani&ss=detail&n=0&h=FR-TI3%2F587					
Costs (year) TUL	2011	2012	2013	2014	Total
Non-investment (CZK)	698	698	698	698	2 792
Investment (CZK)	0	0	0	0	0
Total (CZK) TUL	698	698	698	698	2 792
Project results					
2012		RIV/44265786: /12:#0000006 - In vivo behavior of the synthetic porous hydroxyapatite prepared by low temperature microwave processing and comparison with deproteinized bovine bone (2012)			
2012		RIV/44265786: /12:#0000008 - Development and Clinical Evaluation of Bioactive Implant for Interbody Fusion in the Treatment of Degenerative Lumbar Spine Disease (2012)			
2013		RIV/44265786: /13:#0000009 - Two-stage maxillary sinus augmentation using autogenous bone and β-tricalcium phosphate: Clinical and histomorphometric evaluation in humans (2013)			
2013		RIV/44265786: /13:#0000010 - Návrh a výroba individuálních umělých náhrad Cranio-Oss (2013)			
20104		RIV/44265786: /14:#0000011 - Bioaktivace titanu a PEEK pro kostní implantáty (2014)			
2014		RIV/44265786: /14:#0000014 - Návrh a výroba individuálních (zakázkových) kraniálních implantátů s bioaktivním povrchem využívající CT diagnostických dat a CAD/CAM technologií (2014)			
2014		RIV/44265786: /14:#0000015 - Bioaktivní náhrada meziobratlové ploténky z PEEK-OPTIMA? HA Enhanced (2014)			
2014		RIV/44265786: /14:#0000016 - Bioaktivní náhrada meziobratlové ploténky z			

		PEEK-OPTIMA? (2014)
2015		RIV/44265786: /15:#000012 - A Histological and Radiological Study of Bone Formation around Porous Resorbable ? -tricalcium Phosphate Used as a Bone Defect Filling (2015)
2015		RIV/44265786: /15:#000013 - Bioaktivní náhrada lebečních kostí (2015)
2012		RIV/46747885:24210/12:#0002749 - Measuring primary stability of cervical implant (2012)
2012		RIV/46747885:24210/12:#0005646 - Analysis of the force needed for the closure of the sternum after median sternotomy (2012)
2012		RIV/46747885:24210/12:#0005647 - Modelling of customized implants (2012)
2013		RIV/46747885:24210/13:#0005639 - Numerical and Experimental results from Spinal Implant Stability Measuring (2013)
2013		RIV/46747885:24210/13:#0005641 - A Method of Evaluation of Mechanical Properties of Human Skin (2013)
2013		RIV/46747885:24210/13:#0005642 - Biomechanical Analysis of mini - Screw Pullout Strength (2013)