**Curriculum Vitae**

# Name: David Lukáš

# Date of birth: April 18th 1958

# Place of birth: Liberec

# Home address: Na Žižkově 853, Liberec 6, Rochlice, 460 06, Česká Republika

# Tel: +420 606 639 586

E-mail: [david.lukas@tul.cz](mailto:david.lukas@tul.cz)

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| **Education and academic degree** |

*Professor****,*** Textile technology,

Faculty of Textile Engineering, Technical University of Liberec, Czech Republic, 1996.

*Associated professor*, Textile technology,

Faculty of Textile Engineering, Technical University of Liberec, Czech Republic, 1993.

*Ph.D. in Textile Technology,*

Faculty of Textile Engineering, Technical University of Liberec, Czech Republic, 1993.

*Master’s in Biophysics and Chemical Physics,*

Faculty of Mathematics and Physics, Charles University of Prague, Czech Republic, 1982.

*Bachelor in Physics*,

Faculty of Mathematics and Physics, Charles University of Prague, Czech Republic, 1980.

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| **Positions held** |

*Chair of the Department of Nonwovens,*

Faculty of Textile Engineering, Technical University of Liberec, Czech Republic, 2003 – current.

*Rector (President/Chancellor),*

Technical University of Liberec, Liberec, Czech Republic, 1997 – 2002.

*Prorector (Vice-Rector),*

Technical University of Liberec, Liberec, Czech Republic, 1996-1997.

*Chair of the Academic Senate,*

Technical University of Liberec, Liberec, Czech Republic, 1990-1993.

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| **Courses taught** |

Physical principles of nanofiber production (Master's degree program, FT a FM TUL)

Polymer Physics (Master's degree program, FT a FM TUL)

Nanofibers and Nanotechnology (doctoral degree program, FT TUL)

Tissue engineering (doctoral degree program, FT TUL)

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| **Defended doctoral thesis** |

Jana Horáková (2016) – Nanofibrous Vascular Grafts

Larysa Ocheretna (2013) – The Lattice Gas Cellular Automata Approach for Fluid Flow in Porous Media

Jiří Chvojka (2012) – Special Collectors for electrospinning

Pavel Pokorný (2011) – Analysis and Control of Elecrtospinning Process

Petr Mikeš (2010) – Physical Principles of Electrostatic Spinning

Kateřina Vodseďálková (2010) – Core-Shell Electrospinning

Richard Charvát (2009) – Computer Modeling and Visualization of Breathing Facades Arindam Sarkar (2009) – Physical Principles of Electrospinning

Jiří Chaloupek (2008) – Wetting of Fibre Assemblies

Jakub Hrůza (2006) – Improvement of Filtration Properties of Fibrous Materials

Věra Soukupová (2005) – Computer Simulation of Wetting and Wicking Phenomena

Eva Košťáková (2004) – Dynamics of Liquid Penetration into Fibrous Materials

**Currently led doctoral thesis**

Jiří Kula – Automatic visual control system for control processes

Milan Šimko – Modeling and simulation of whipping instability during electrospinning

Lucie Vysloužilová – Core-shell Electrospinning from Free Liquid Surfaces

Julie Soukupová – Emission of electromagnetic radiation generated during electrospinning

Andrea Klápšťová – Tubular nanofibrous drains for glaucoma treatment

Manikandan Sivan – PCL scaffolds produced by AC electrospinning and their biodegradability

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| **Selected publications for the past five years** |

**2015**

Erben, J. Pilarova K. Sanetrnik F. Chvojka J. Jencova V. Blazkova L. Havlicek J. Novak O. Mikes P. Prosecka E. Lukas D. Kostakova Kuzelova E., The combination of meltblown and electrospinning for bone tissue engineering, MATERIALS LETTERS, **143**, 172-176, 2015. **IF=2.486**.

Stanishevsky A. Wetuski J. Walock M. Stanishevskaya I. Yockell-Lelievre H. Kostakova E. [Lukas D](http://apps.webofknowledge.com/OneClickSearch.do?product=UA&search_mode=OneClickSearch&excludeEventConfig=ExcludeIfFromFullRecPage&SID=W2KkK8OnUd448b88bSd&field=AU&value=Lukas,%20D&cacheurlFromRightClick=no)., Ribbon-like and spontaneously folded structures of tungsten oxide nanofibers fabricated via electrospinning, RSC ADVANCES, **5** (85), 69534-69542 2015, **IF=3.840**.

**2014**

Lukas, D. Pokorny P. Kostakova E. Sanetrnik F. et al., ,Effective AC needleless and collectorless electrospinning for yarn production, PHYSICAL CHEMISTRY CHEMICAL PHYSICS,   **16** (48),  pp. 26816-26822, 2014, **IF=4.198**.

Kostakova E. Seps M. Pokorny P. Lukas, D; et al., [Study of polycaprolactone wet electrospinning process,](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=2&SID=4DymQwUFIQnhlbNrVAG&page=1&doc=2) EXPRESS POLYMER LETTERS, **8**(8) pp. 554-564, 2014, IF=2.953.

Kula J. Linka A. Tunak M. Lukas D., [Image analysis of jet structure on electrospinning from free liquid surface,](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=2&SID=4DymQwUFIQnhlbNrVAG&page=1&doc=3) APPLIED PHYSICS LETTERS, **104**(24) Article No.: 243114, 2014, IF=**3.515**.

Simko M. Erhart J. Lukas D., [A mathematical model of external electrostatic field of a special collector for electrospinning of nanofibers,](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=2&SID=4DymQwUFIQnhlbNrVAG&page=1&doc=4) JOURNAL OF ELECTROSTATICS, **72**(2),   pp. 161-165, 2014, **IF=1.457**.

**2013**

Buzgo M. Jakubova R. Mickova A. Lukas D. et al., [Time-regulated drug delivery system based on coaxially incorporated platelet alpha-granules for biomedical use,](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=2&SID=4DymQwUFIQnhlbNrVAG&page=1&doc=6) NANOMEDICINE, **8**(7), pp. 1137-1154, 2013, **IF=5.824**.

Chvojka J. Hinestroza J. P. Lukas D., [Production of Poly(vinylalcohol) Nanoyarns Using a Special Saw-like Collector,](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=2&SID=4DymQwUFIQnhlbNrVAG&page=1&doc=7) FIBRES & TEXTILES IN EASTERN EUROPE, **21** (2) pp. 28-31, 2013, **IF=0.541**.

Rampichova, M. Chvojka, J. Buzgo M. Lukas D. et al., [Elastic three-dimensional poly (epsilon-caprolactone) nanofibre scaffold enhances migration, proliferation and osteogenic differentiation of mesenchymal stem cells,](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=2&SID=4DymQwUFIQnhlbNrVAG&page=1&doc=8) CELL PROLIFERATION, **46**(1) pp. 23-37, 2013, IF=3.82.

Lin T. Lukas, D. Bhat G. S., [Nanofiber Manufacture, Properties, and Applications,](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=2&SID=4DymQwUFIQnhlbNrVAG&page=1&doc=9) JOURNAL OF NANOMATERIALS, Article No. 368191, 2013, **IF=1.611**.

**2012**

Kostakova E. Gregr J. Meszaros L. Chotebor M. Nagy Z. Pokorny P. Lukas D: Laboratory synthesis of carbon nanostructured materials using natural gas, MATERIALS LETTERS,  **79**, pp. 35-38, 2012,  DOI: 10.1016/j.matlet.2012.03.101, ISSN: 0167-577X, **IF = 2.3**.

Deliu R. Sandu I. Butnar R. Sandu I. G. Lukas D.: Study of the Influence of Electrospinning Parameters on the Structure and Morphology of Polyvinyl Alcohol Nanofibers, REVISTA DE CHIMIE, **63**/6,   pp. 603-611 (2012), ISSN: 0034-7752, **IF = 0.599**.

Mickova A. Buzgo M. Benada O. Rampichova M. Fisar Z. Filova E. Tesarova M. Lukas D. Amler E.: Core/Shell Nanofibers with Embedded Liposomes as a Drug Delivery System, BIOMACROMOLECULES, **13**(4),   pp. 952-962 (2012)   DOI: 10.1021/bm2018118, ISSN: 1525-7797, **IF =** **5.479**.

Rampichova M. Martinova L. Kostakova E. Filova E. Mickova A. Buzgo M. Michalek J. Pradny M. Neecas A. Lukas D. Amler E.: JOURNAL OF MATERIALS SCIENCE-MATERIALS IN MEDICINE,  **23**/2   pp. 555-563 (2012) DOI: 10.1007/s10856-011-4518-x, ISSN: 0957-4530, **IF = 3.316**.

Prosecka E. Buzgo M. Rampichova M. Kocourek T. Kochova P.Vyslouzilova L. Tvrdik D. Jelinek M. Lukas D. Amler E., JOURNAL OF BIOMEDICINE AND BIOTECHNOLOGY, Article Number: 428503   DOI: 10.1155/2012/428503 (2012), ISSN: 1110-7243, **IF = 2.465**.

Buzgo M. Jakubova R. Plencner M. Lukas D. et al.,[Time-regulated drug delivery system on coaxially incorporated platelet alphagranules for biomedical use,](http://apps.webofknowledge.com/full_record.do?product=UA&search_mode=GeneralSearch&qid=2&SID=4DymQwUFIQnhlbNrVAG&page=1&doc=10&cacheurlFromRightClick=no) JOURNAL OF TISSUE ENGINEERING AND REGENERATIVE MEDICINE,  6  Special Issue: SI   Supplement: 2, pp. 34-34, 2012, **IF= 5.199**.

**2011**

Norris S. C. P. Humpolickova J. Amler E. Huranova M. Buzgo M. Machan R. Lukas D. Hof M.: [Raster image correlation spectroscopy as a novel tool to study interactions of macromolecules with nanofiber scaffolds,](http://apps.webofknowledge.com/full_record.do?product=WOS&search_mode=GeneralSearch&qid=1&SID=N2ajGG8b85II89BNFFb&page=1&doc=1) ACTA BIOMATERIALIA,   **7**(12) Pages: 4195-4203   DOI: 10.1016/j.actbio.2011.07.012, **IF= 5.223**.

Rampichova M. Chvojka J. Prosecka E. Mikes P. Lukas D. Amler E.: MSCS PROLIFERATION AND OSTEOGENIC DIFFERENTIATION ON 2D AND 3D PCL NANOFIBROUS SCAFFOLDS, INTERNATIONAL JOURNAL OF ARTIFICIAL ORGANS,  **34**(8)   Special Issue: SI   Pages: 654-654, 2011, **IF = 1.488**.

Tsai Chen-Chih, Mikes P. Andrukh T. White E. Monaenkova D. Burtovyy O. Burtovyy R. Rubin B. Lukas D. Luzinov I. Owens, J. Kornev K.: Nanoporous artificial proboscis for probing minute amount of liquids, NANOSCALE  3(11) Pages: 4685-4695 DOI: 10.1039/c1nr10773a   Published: 2011, **IF = 4.11**.

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| **H-index the Sum of Times cited** |

H-index: 12

Sum of Times Cited without self-citations according to ISI Web of Knowledge: 404 (to date June 2nd 2016)

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| **Grants and projects obtained over the past five years** |

# MZ ČR: NV15-29241A. 2015-2018. Nanofibrous biodegradable small-diameter vascular graft. Recipient: Technical University of Liberec. Principal investigator: David Lukáš. Other participants: University of Defense, Hradec Kralove, Faculty of Military Health; Palacky University in Olomouc, Faculty of Medicine. Subsidies Total: 10,431 thousand CZK, of which 6,441 CZK thousand shares TUL.

# <http://www.isvav.cz/projectDetail.do?rowId=NV15-29241A>

# TA ČR: TA 03010609. 2013-2015. Nanofiber and nanoparticle abrasives as the basis for a new generation of tools for ultra-fine surfaces polishing. Principal investigator: Institute of Plasma Physics ASCR, v.v.i. Investigator: Technical University of Liberec, prof. RNDr. David Lukáš, CSc. Subsidies TUL 3,060 thousand CZK.

# <http://www.isvav.cz/projectDetail.do?rowId=TA03010609>

GA ČR:P208/12/0105. 2012-2015. **Polymer solutions in external field: molecular understanding of electrospinning.** Investigator: J.E.Purkyně University, prof. RNDr. Ivo Nezbeda, Dr.Cs. Investigator: Technical University of Liberec, prof. RNDr. David Lukáš, CSc. Subsidies TUL 3,196 thousand CZK.

<http://www.isvav.cz/projectDetail.do?rowId=GAP208%2F12%2F0105>

# MVO ČR: VG20102014049. 2010-2014. Research of possible application of new materials (with a focus on nanomaterials) and advanced technologies to protect people against the effects of CBRN materials, with an emphasis on a critical infrastructure. Coordinating beneficiary / Coordinator: National Institute for Nuclear, Chemical and Biological Protection v.v.i., Ing. George Slabotinský, PhD. Recipient / Manager: TU Liberec, prof. RNDr. David Lukáš, CSc. Subsidies TUL 7,398 thousand CZK.

# <http://www.isvav.cz/projectDetail.do?rowId=VG20102014049>

**AV ČR: A500390702. 2007-2010. Scaffolds made by nanofibre materials with incorporated liposomes.** Coordinating beneficiary / Grantee: Institute of Experimental Medicine ASCR, V.V. .: doc. RNDr. Evžen Amler, MD. Recipient / Manager: Technical University of Liberec, prof. RNDr. David Lukáš, CSc. Subsidies TUL 2,396 thousand CZK.

<http://www.isvav.cz/projectDetail.do?rowId=IAA500390702>

MŠMT ČR:Centralized development project. 2013. **An integrated system of education in tissue engineering, regenerative medicine and nanotechnology at UK, ČVUT and TUL.** TUL Investigator: prof. RNDr. David Lukáš, CSc. Subsidies 2,765 thousand. CZK

MŠMT ČR:Centralized development project. 2011. **Laboratory of Tissue Engineering**. TUL Investigator: prof. RNDr. David Lukáš, CSc. Subsidies TUL 12,012 thousand CZK.

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| **Participation in other grants and projects** |

MŠMT ČR: LO1201. 2014-2018. **Development of the Institute for Nanomaterials, Advanced Technologies and Innovation**. The program aims at the development of the research infrastructure of the Centre for Nanomaterials, Advanced Technology and Innovation. Investigator TUL. Subsidies 184,311 thousand CZK. Prof. RNDr. David Lukáš, CSc.: participates in three activities: 1. Theoretical and experimental research of the spinning process and the process of blending microfiber and nanofiber construction of test equipment; 2. New structures of machines for the production of fiber and nanofiber structures 3. Equipment for the production of fiber and nanofiber structures.

<http://www.isvav.cz/projectDetail.do?rowId=LO1201>

MŠMT ČR-EU: ED0005/01/01. 2009-2013. **Center for Nanomaterials, Advanced Technologies and Innovation**. Investigator TUL. Subsidies 909,840 thousand CZK. The aim of the project was to build a scientific research infrastructure comparable to European and world standards, which meets today's demanding requirements for cutting-edge research in two key areas: a) material research b) Competitive Engineering. Prof. RNDr. David Lukáš, CSc.: principal investigator of the Laboratory for preparation of nanofibres and nanosurfaces. The main activity of the research team was to build and deploy the infrastructure and carry out and subsequent R & D activities.

<http://www.isvav.cz/projectDetail.do?rowId=ED0005%2F01%2F01>

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| **International projects and grants** |

**COST ACTION MP 1206.** <http://www.electrospinning-cost.eu/participants>

### European multidisciplinary platform for Electrospun Nano-fibres for bio inspired composite materials and innovative industrial applications

### David Lukas involved in two working groups:

<http://www.electrospinning-cost.eu/working-groups/wg2>

MŠMT ­ČR: ME KONTAKT ME 10145. 2010-2012. **Modification of nanofibre materials by plasma technologies for biological applications.** Recipient: Technical University of Liberec; The recipient / Investigator: prof. Ing. Petr Louda, CSc., Faculty of Mechanical Engineering. Co-investigator: prof. RNDr. David Lukáš, PhD., Faculty of Textile Engineering, Co-investigator: Charles University in Prague. Investigator: doc. RNDr. Evžen Amler, CSc., 2nd University Hospital, Charles University, Institute of Biophysics. CARSILA project was a joint Polish-Czech project. Cooperating partner: Technical University of Lodz, Faculty of Mechanical Engineering, Department of Materials Engineering, Multilateral Cooperation - ERA-NET.

<http://www.isvav.cz/projectDetail.do?rowId=ME10145>

# Ministry of Education, Youth and Sport, CR: KONTAKT Mobility - Hungarian-Czech Intergovernmental S&T Cooperation Program, project number: MEB040704. 2007-2008. Study of nanofibrous materials and their usage for composite producing and carbonization. Bilateral cooperation with Budapest University of Technology and Economics, Faculty of Mechanical Engineering, Department of Polymer Engineering, Investigator: Technical University of Liberec, Prof. RNDr. David Lukáš, CSc. Subsidy: 132 thousand CZK.

NMP2-CT-2003-505892. 2004-2006. 6th Framework Program of EU. The application of ultrasound for textile technology. TUL Investigator: prof. RNDr. David Lukáš, CSc. Subsidy: 2,988,811 EUR. The aim of the project was the application of ultrasound to accelerate textile processes, especially in composite materials, nanofibres and special nonwovens.

# Ministry of Education, Youth and Sport of the Czech Republic: KONTAKT Mobility - Hungarian-Czech Intergovernmental S&T Cooperation Programme, project number: CZ-1/2004. 2005-2006. Experimetnal Investigation and Theoretical Modelling of FIbrous Structures Concerning Liquid Absorption and Porosity. Bilateral cooperation with Budapest University of Technology and Economics, Faculty of Mechanical Engineering, Department of Polymer Engineering, Investigator: Technical University of Liberec, Prof. RNDr. David Lukáš, CSc. Subsidy: 113 thousand CZK.

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| **Patents and selected cooperation with industry over the past five years** |

Patents granted by the World Intellectual Property Organization

Jirsák O. Sanetrník F. Lukáš D. Martinová L. Chaloupek J. Kotek V. Method of nanofibres production from a polymer solution using electrostatic spinning and a device for carrying out the method US2006290031 WO2005024101-2006

Kocis L. [Pokorny](http://www.google.com/search?tbo=p&tbm=pts&hl=en&q=ininventor:%22Pavel+Pokorny%22) P. [Lukas](http://www.google.com/search?tbo=p&tbm=pts&hl=en&q=ininventor:%22David+Lukas%22) D. [Mikes](http://www.google.com/search?tbo=p&tbm=pts&hl=en&q=ininventor:%22Petr+Mikes%22) P. [Chvojka](http://www.google.com/search?tbo=p&tbm=pts&hl=en&q=ininventor:%22Jiri+Chvojka%22) J. [Kostakova](http://www.google.com/search?tbo=p&tbm=pts&hl=en&q=ininventor:%22Eva+Kostakova%22) E. [Beran](http://www.google.com/search?tbo=p&tbm=pts&hl=en&q=ininventor:%22Jaroslav+Beran%22) J. [Bilek](http://www.google.com/search?tbo=p&tbm=pts&hl=en&q=ininventor:%22Martin+BILEK%22) M. [Valtera](http://www.google.com/search?tbo=p&tbm=pts&hl=en&q=ininventor:%22Jan+Valtera%22) J. Method for production of polymeric nanofibers by spinning of solution or melt of polymer in electric field, and a linear formation from polymeric nanofibers prepared by this method, WO2014094694 A1.

Lukáš D. Růžičková J. Košťáková E. Novák O. Pokorný P. Bristenský J. Samek L. (2009) Collecting electrode of the device for production of nanofibres through electrostatic spinning of polymer matrices, and device comprising this collecting electrode. **WO2009/049564 A2**. 2009-04-23, International application (PCT), Int. Appl. Num: PCT/CZ2008/000123.

**Patenty udělené Úřadem pro průmyslové vlastnictví**

Kočiš L. Pokorný P.  Lukáš D. Mikeš P. Chvojka J. Košťáková E. Beran J. Bílek M. Valtera J. Amler E. Buzgo M. Míčková A. Preparation of the polymer nanofiber by spinning solution or melt of polymer in electric field, and linear formation of polymeric nanofibres created in this method, the patent CZ 304137

Pokorný P. Lukáš D. Mikeš P. Martinová L. Zálešáková D. Vodseďálková K. Sanetrník F. (2011) A method and device for production of nanofibres by wash-over method of electrostatic spinning, Awarded: November 22, 2011, patent 22.11.2011, patent CZ 302876

Lukáš D. Růžičková J. Košťáková E. Novák O. Pokorný P. Briestenský J. Samek L. (2007) The collecting electrode as the device for production of nanofibres through electrostatic spinning of polymer matrices, and a device comprising a collecting electrode, CZ Patent CZ 2007-727.

Pokorný P. Košťáková E. Lukáš D. (2007) Equipment for production of nanofibres through electrostatic spinning, utility model, registration number 18094, 2007.

Pokorný P. Lukáš D. Mikeš P. (2009) The X-ray emitter and / or accelerator of electrically charged particles, patent CZ 305429, [2009-424](http://isdv.upv.cz/portal/pls/portal/portlets.pts.det?xprim=1401489&lan=cs&s_majs=Technick%C3%A1%20univerzita%20v%20Liberci&s_puvo=pokorn%C3%BD&s_naze=&s_anot=).

Pokorný P. Lukáš D. Mikeš P. Vysloužilová L. Chvojka J. Hégrová B. Lukáš R. Amler E. Buzgo M. Louda P. (2011) A method of forming a functional nanofiber layer and a device for implementing the method, CZ Patent 302901, 2011-328.

Chvojka J. Lukáš D. Košťáková E. Mikeš P. Pokorný P. Brustmann (2013), The layered material / fabric for polishing hard surfaces, utility model 27192, 2013-28918.

Chvojka J. Lukáš D. Košťáková E. Mikeš P. Pokorný P. Chaloupek J. Saterník F. (2014) Nanofiber material with incorporated particles, utility model 28410, 2014-29564.

Lukáš D. Mikeš P. Kuželová-Košťáková E. Pokorný P. Novák O. Sanetrník F. Chvojka J. Havlíček J. Jenčová V. Horáková J. Blažková L. Pilařová K. Erben J. Kovačičin J. (2014) Equipment for manufacturing a composite textile material comprising polymer nanofibres, utility model 28190, 2014-30498.

**Commercialization of patents and utility models**

Pokorný P. Lukáš D. Mikeš P. Martinová L. Zálešáková D. Vodseďálková K. Sanetrník F. (2011) A method and a device for production of nanofibres by wash-over method of electrostatic spinning, Awarded: November 22, 2011, patent CZ 302 876. Sold for around 5 million CZK in 2013.

Jirsák, Sanetrník, Lukáš, Martinová, Chaloupek, Kotek, solution using electrostatic spinning and a device for carrying out the method US2006290031 WO2005024101-2006.

Developed in 2003, in the same year patented. The Czech patent 294274 was awarded in 2004 and the international patent WO 2005/024101 was granted in 2005. A licensing agreement for the use of the patent was transferred to Elmarco Ltd., company, Liberec, in 2004. At present, the patent is extended to the most developed countries. **Annual revenue from the license:** 2011 – 2,053 thousand CZK, 2012 - 1,443 thousand CZK, 2013 – 1,051 thousand. CZK, 2014 - 311 thousand CZK, 2015 - 270 thousand CZK. **Total license revenues for the period 2011-2015** is 5,128 thousand CZK.

Amler E. Míčková A. Jakubová R. Plencner M. Prosecká E. Filová E. Rampichová M. Pokorný I. Lukáš D. Martinová L. Koštáková E. Pokorný P. Mesh of nanofibers with incorporated liposomes, **Utility model 20293**, application number 2009-21122, Patent share of TUL was sold to NANOPROGRES s.p.o. for about 90 thousand. CZK.

Amler E. Míčková A. Jakubová R. Plencner M. Prosecká E. Filová E.  
Rampichová M. Pokorný I. Lukáš D. Martinová L. Košťálová E. Pokorný P. The hollow nanofibers enriched by liposomes, Utility model 19818, application number 2009-21123, Patent share of TUL was sold to NANOPROGRES s.p.o. for about 90 thousand. CZK.

**Significant industrial cooperation**

**Cluster NANOPROGRES**

MPO ČR: OPPI – CZ.1.03/5.1.00/12.00018. **NANOPROGRES**. 2011-2014. Prof. David Lukáš, a member of the steering committee, a principal investigator and an expert guarantor of the sub-project no. 1. **The development of reproducible methods for the production of "core-shell" nanofibers.**

R & D team of prof. Lukáš and prof. Beran:

Financial amounts for investment delivery for NANOPROGRES I:

Development of devices for production of nanofibres in the clean room environment of class C: 8,9 CZK mil.

Total for research reports and for delivery of investment for NANOPROGRES II: A Reports 4,150,000 thousand CZK,

Development and construction of two functional models of electrospinning apparatus for preparing a composite nanofiber composite materials 12,000,000 thousand CZK  
Expectation:  
Next studies and delivery of investment at present (i.e. April 2016), Ministry of Industry and Trade of The Czech Republic / CzechInvest approved the project NANOPROGRES III: about 16,000,000 thousand CZK.

<http://nanoprogres.cz/cs/podnikatelsky-program/zakladni-model-klastru-nanoprogres-podnikatelsky>

Contract research of Technical University of Liberec with **Cummins Inc.,** (USA): Research and development of nanofiber materials for motors and automotive industry in 2008-2010. The total volume of 396 thousand USD. Prof. David Lukáš a member of the research team. Development of computer simulation parameters nanofiber filtration layers using a hydrodynamic model of cellular automata.

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| **Scholarships** |

Visiting professor, 2015

School of Materials Science and Engineering, Clemson University, Clemson, South Carolina, United States of America, (three months).

Visiting professor, 2009-2010

School of Materials Science and Engineering, Clemson University, Clemson, South Carolina, United States of America, (seven months).

Visiting professor, 2005

Department of Textiles and Clothing, University of California, Davis, United States of America, (three month).

Visiting scholar, 1994

Department of Mechanics, School of Mechanical Engineering, Denmark University of Technology, Copenhagen – Lingby, (three months).

*Visiting scholar 1988,* Department of Nonwovens, Faculty of Textile Engineering, Institut Textilnoj i Ljogkoj Promyshlenosti Imeni Kyrova, San Peterburg, Russia, (three months).

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| **Scientific boards and professional memberships** |

**Scientific Boards**

A member of the Scientific Board of the Technical University of Liberec, 1996-so far.

A member of the Scientific Board of the Faculty of Technology, Tomas Bata University in Zlín, 2012-2015.

A member of the Scientific Board of the Institute for Nanomaterials, Advanced Technologies and Innovation, Technical University of Liberec, 2012-so far.

A member of the Scientific Board of the Faculty of Mechanical Engineering, Technical University of Liberec, 2005-so far.

A member of the Scientific Board of the Faculty of Textile Engineering, Technical University of Liberec, 2003-so far.

**Professional memberships**

Member of the Governing Council Meeting of the Fiber Society, USA, 2015-2017.  
Union of Czech mathematicians and physicists, member

Czech Society for Mechanics, member

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| **Honours and awards** |

Plaque awarded by the Faculty of Mechanical Engineering on the occasion of the 60th anniversary of the founding of the University of Mechanical Engineering in Liberec (later VSST -TUL), 2013.

Medal of Faculty of the Textile Engineering "for the work of top Czech and foreign textile specialists", 2010.

Bronze medal for the development of the Faculty of Economic, Technical University of Liberec, 2002.

Plaque for the development of Czech higher education, Charles University in Prague, 1998.

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| **Other experience** |

NANOPROGRES, z.s.p.o., a member of the Steering Committee, 2011-so far.

The Dagmar and Vaclav Havel Foundation Vision 97, a member of the Advisory Committee for Education, 2001-2012.

Assessor/eveluator of the Grant Agency of the Czech Republic, 2009-2010.

Foundation for preservation and recovery of Jizera Mountains, a member of the Supervisory Board and later a member of the Board of Trusties, 1998-2008.

A member of the Presidium of the University Nisa, Framework of universities in Middle Europe: University of Technology in Wroclaw, Poland; Technical University of Liberec, Czech Republic; University of Applied Sciences Zittau, Germany, 1999-2009.  
Board of trusties at Internationales HochschuiInstitut Zittau (Higher educational institution in Zittau, Gemany), 1997-2002.

President of the board of trusties at Internationales HochschuiInstitut Zittau (Higher educational institution in Zittau, Gemany), 1999th

The scholarship program of the Technical University in Liberec, program manager, 1998-2007.

**Next experience**

**Performances at the New National Theatre in Prague during the performances “Night in Nanopolis”.** Premiere November 23, 2011 December 12, 2011 the second performance. http://utesla.cz/2011/11/nanopolis-invitation/.  
The performance was a "fusion of music, dance, painting and physico-chemical experiments from an atom in a molecule to nanotechnology".

Music: TATABOJS and Petr Cigler; Choreography: Thomas Rychetský, David Stransky and Magdalena Rellichová; Scientific animation: Petr KTS Holzhauser, Petr Cigler, David Lukas and Paul Pokorny; Scenario and dramaturgy Tomas Zizka and Tesla group.

**David Lukáš – IS VaVaI researcher identifier (vedidk):3868427**

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[7 projects found with a total state budget funding of 53,888 thousand CZK in Research and Development and Innovation Information System of the Czech Republic](http://www.isvav.cz/findProjectByFilter.do?typVyhledavani=advanced&prjIntCode=&prjIntName=&druhSoutezeKod=&kodSouteze=&providerCode=&updateForm=&celkoveNakladyMin=&celkoveNakladyMax=&celkoveNakladyStatniMin=&celkoveNakladyStatniMax=&categoryCode=&activityType=&activityCode=&branchCode=&typOboru=1&keyword=&currentYear=2016&stavPosledniFazeKod=&stavFazeKod=&stavovyFiltrRok=2016&yearStartFrom=&yearStartTo=&yearEndFrom=&yearEndTo=&pocetPrijemcuMin=&pocetPrijemcuMax=&pocetSpoluprijemcuMin=&pocetSpoluprijemcuMax=&pocetVysledkuMin=&pocetVysledkuMax=&evalCode=&rolePrijemce=2&orgName=&orgICO=&kodSubjektu=&kategorieSubjektu=&nazevOrgJednotky=&kodOrgJednotky=&prijmeniPrijemce=&jmenoPrijemce=&vyzOrgRok=2016&vyzOrgPoskyt=any&vyzOrg=0&roleResitele=3&personSurname=&personName=&personId=3868427&sortType=0&formType=1)