



✉ VŠB-TU Ostrava, Faculty of Mechanical Engineering
Department of Machining, Assembly and Engineering
Metrology
17. listopadu 2172/15, 708 00 Ostrava Poruba

@ jana.petrů@vsb.cz

☎ +420 59 732 4391

ACTIVITY AREA

I am dealing with the problems of conventional and highly productive machining of engineering materials with respect to the evaluation of the surface quality of machined parts. Other areas of application are innovative additive technology, non-conventional technology and assembly work.

- Machining and machining optimization
- Materials tool testing
- 3D printing of metal, polymer and composite materials
- Determination of machinability of construction materials
- Evaluation of surface quality after machining and 3D printing
- Assembly work and automation of assembly work
- Measurement of basic metrological quantities

Hirsch index in Web of Science and SCOPUS databases:

- h-index_{WoS} - 8
- h-index_{SCOPUS} - 9

EDUCATION

4. 10. 2019	VŠB – TU Ostrava, Faculty of Mechanical Engineering <i>Defended lecture at the Scientific Board of VŠB-TUO on the appointment procedure in the field of Engineering Technology – prof.</i>
24. 11. 2015	VŠB – TU Ostrava, Faculty of Mechanical Engineering <i>Habilitation in Mechanical Technology – Assoc. Prof.</i>
2005-2010	VŠB – TU Ostrava, Faculty of Mechanical Engineering <i>Ph. D Study in Mechanical Technology – Ph.D.</i>
2000-2005	VŠB – TU Ostrava, Faculty of Mechanical Engineering <i>Ing. Study in Mechanical Technology – MSc.</i>
2003-2005	Silesian University in Opava, Philosophy and Science <i>Mgr. Study in Informatics and Computer Technology – M.A.</i>
1995-2001	VŠB – TU Ostrava, Faculty of Economics <i>Ing. Study in Entrepreneurship and Management – Msc.</i>

EMPLOYMENT AND WORK EXPERIENCES

3/2012-dosud	VŠB-TU Ostrava, Faculty of Mechanical Engineering, Department of Machining, Assembly and Engineering Metrology Head of Department <i>Teaching, scientific research and economic affairs department, responsible for the operation of department to the dean.</i>
5/2010-2/2012	VŠB-TU Ostrava, Faculty of Mechanical Engineering, Department of Machining and Assembly Secretary of the Department <i>Educational and economic affairs department.</i>
02/2007	VŠB-TU Ostrava, Faculty of Mechanical Engineering, Department of Machining and Assembly Research Assistant <i>Teaching vocational subjects.</i>

EXPERIENCE WITH PROJECT SOLUTIONS

2018 - 2022	Ministry of Education Youth and Sports (MEYS) Project director, Senior researcher <i>Innovative and Additive Manufacturing Technologies – New Technological Solutions for 3D printing of Metals and Composite materials. OP VVV, reg. n. CZ.02.1.01/0.0/0.0/17_049/0008407</i>
2019 – 2020	Ministry of Industry and Trade (MIT) Key Operative in 2nd Research Activity – Additive technology <i>National competence center of Mechatronics and Smart Technologies for Engineering Industry. TACR. TN01000071</i>
2017 – 2020	Ministry of Education Youth and Sports (MEYS) Co-Investigator of Project <i>CPIT TL1 infrastructure Build-Up for Strategic Study Programmes FME and FMST VSB-TUO, reg. n. CZ.02.2.67/0.0/0.0/16016/0002506</i>
2019 – 2020	Ministry of Education Youth and Sports (MEYS) Expert of KA3 Editing the Content of the Senior Study Program 1 <i>Technology for the Future, reg. n. CZ.02.2.69/0.0/0.0/16_015/0002338, Activity Mechanical Engineering, Expert of KA3 Editing the Content of the Senior Study Program 1</i>
2020	Ministry of Education Youth and Sports (MEYS) Project Principal Investigator <i>Student Grant Competition</i> <i>SP2020/27 Specific Research on Innovative Additive Manufacturing Technologies</i>
2019	Ministry of Education Youth and Sports (MEYS) Project Principal Investigator <i>Student Grant Competition</i>

	<i>SP2019/60 Modern and Productive Machining and Metrology</i>
2018	Ministry of Education Youth and Sports (MEYS) Project Principal Investigator Student Grant Competition <i>SP2018/150 Specific Research on Modern Manufacturing Technologies</i>
2016 – 2018	Ministry of Industry and Trade (MIT) Co-Investigator of Project <i>Bionic and Topological Optimization of Metal Structures Suitable for Additive Manufacturing . TA01010137. TACR. PRE SEED fund VSB-TU Ostrava</i>
2016 – 2018	Ministry of Industry and Trade (MIT) Co-Investigator of Project Development of a New Set of Cryogenic Spherical Taps, Their Production and Testing Technology in the Period, FV10717. MP346681. TACR. Principal Investigator Company ARMATURY Group a.s.
2017	Ministry of Education Youth and Sports (MEYS) Project Principal Investigator Student Grant Competition <i>SP2017/149 Research into Productive and Eco-Efficient Production Technologies</i>
2016	Ministry of Education Youth and Sports (MEYS) Project Principal Investigator Student Grant Competition <i>SP2016/174 Studying the Process of Machining Progressive Materials</i>
2016	Ministry of Education Youth and Sports (MEYS) Co-Investigator of Project Student Grant Competition <i>SP2016/172 Effect of Technological Parameters on the Machined Surface</i>
2015	Ministry of Education Youth and Sports (MEYS) Project Principal Investigator Student Grant Competition <i>SP2015/116 Machining of Hard Machine Materials and Special Alloys</i>
2015	Ministry of Education Youth and Sports (MEYS) Co-Investigator of Project Student Grant Competition <i>SP2015/129 Changes in Technological Parameters and Their Impact on the Quality and Integrity of the Machined Component</i> Principal Investigator: prof. Ing. Robert Čep, Ph.D.
2014 – 2015	Ministry of Education Youth and Sports (MEYS) Executive Manager Science and Research Operational Programme for Innovation

	<i>CZ.1.05/3.1.00/14.0318 Pre-seed Activities VŠB-TUO II - Mechanical Engineering (IA3 - Mobile device for Cooling Machine Tools with Oil Mist Extraction and Filtration</i>
2014	Ministry of Education Youth and Sports (MEYS) Project Principal Investigator Student Grant Competition <i>SP2014/105 Productive and ecological machining of materials</i>
2014	Ministry of Education Youth and Sports (MEYS) Co-Investigator of Project Student Grant Competition <i>SP2014/166 Effect of Technological Parameters on the Integrity of the Machined Surface</i> Principal Investigator : prof. Ing. Robert Čep, Ph.D.
2013 – 2014	Regional Development Agency Co-Investigator of Project Cross-border cooperation project SR-ČR <i>22410320051 – Support for Increasing the Qualification of the Workforce in the Field of Modern Machining and Metrology Technologies</i> Cross-border cooperation project partner: University in Žilina, Faculty of Mechanical Engineering
2012 – 2014	Ministry of Education Youth and Sports (MEYS) Project manager Competitiveness Education Operational Programme <i>CZ.1.07/2.4.00/31.0170 Creating new networks and strengthening mutual cooperation in the field of innovative engineering</i>
2012 – 2014	Ministry of Education Youth and Sports (MEYS) Factual project manager Education for Competitiveness Operational Programme <i>CZ.1.07/2.4.00/31.0162 PRACTICE POINT: Increasing Practical Competencies and Professional Qualifications in the Field of Technical Education</i>
2011 – 2014	Ministry of Education Youth and Sports (MEYS) Project Manager Education for Competitiveness Operational Programme <i>CZ.1.07/2.3.00/20.0037 Education System for Personnel Research and Development in the Field of Modern trend of Surface Engineering - Surface Integrity</i> Principal Investigator : doc. Ing. Antonín Kříž, Ph.D.
2013	Ministry of Education Youth and Sports (MEYS) Project Principal Investigator Student Grant Competition <i>SP2013/98 Productive Machining of Materials</i>
2012	Ministry of Education Youth and Sports (MEYS) Co-Investigator of Project

	Student Grant Competition <i>SP2012/68 Efficient machining of modern materials and evaluation of surface integrity</i> Principal Investigator : prof. Ing. Robert Čep, Ph.D.
2012 – 2014	OP Human Capital Operational Programme Project Principal Investigator <i>Guaranteed success with Kielce University of Technology</i>
2012	University Development Fund Project Principal Investigator <i>Innovation of the subject Assembly work and automation of assembly work</i>
2011 – 2014	Ministry of Education Youth and Sports (MEYS) Project Manager Education for Competitiveness Operational Programme <i>CZ.1.07/2.3.00/20.0037 Education system for personnel research and development in the field of modern trend of surface engineering - surface integrity</i>
2011 – 2014	Ministry of Education Youth and Sports (MEYS) Project Administrator Education for Competitiveness Operational Programme <i>CZ.1.07/2.4.00/17.0082 Increasing professional qualifications with practical skills and knowledge</i>
2011 – 2012	Ministry of Education Youth and Sports (MEYS) Project Coordinator Education for Competitiveness Operational Programme <i>CZ.1.07/2.2.00/15.0459 Increasing the competencies of students of technical fields through modular innovation of study programs</i> Principal Investigator : Ing. Ivana Šajdlerová, Ph.D.
2011 – 2012	Ministry of Education Youth and Sports (MEYS) Project Coordinator Education for Competitiveness Operational Programme <i>CZ.1.07/1.3.05/03.0019 Support of modern teaching methods in the field of production technologies for pedagogical staff of secondary schools</i>
2011	Ministry of Education Youth and Sports (MEYS) Co-Investigator of Project Student Grant Competition <i>SP2011/23 Possibilities of Increasing Production Productivity and Quality of Machined Surface</i> Principal Investigator : prof. Ing. Robert Čep, Ph.D.
2010	Ministry of Education Youth and Sports (MEYS) Co-Investigator of Project Student Grant Competition <i>SP/20105 Influence of Dynamic Machining Phenomena on Workpiece Quality.</i>

Principal Investigator : prof. Ing. Robert Čep, Ph.D.

COOPERATION WITH PRACTICE (SELECTION)

BREBECK Composite, s.r.o. Šenov u Ostravy	Production of Machine Parts (Principal Investigator).
Jiří Vojtek Olomouc	Production of Machine Parts (Principal Investigator).
Honeywell Aerospace Olomouc	Experimental Testing of Machining of Deposited Ceramic Layers (Principal Investigator).
ROPER Engineering, s.r.o. Ostrava	Machining of Components (Principal Investigator).
TŘINECKÉ ŽELEZÁRNY a. s. Třinec	Determination of Machinability (<i>Co-Investigator</i>).
CNC Metal, s.r.o. Ostrava	Construction of Separator (Principal Investigator).
HMC engineering system s.r.o. Nový Jičín	Research of Highly Productive Machining and its Application in Engineering Production (Principal Investigator).
HMC engineering system s.r.o. Nový Jičín	Research in the Field of Deep Hole Drilling (Principal Investigator).
CEMENT SERVIS s.r.o. Hranice nad Moravicí	Optimization of Operational Processes (Principal Investigator).
Otrusina, s. r. o. Boršice	Design of Production Equipment for Gear Rack (Principal Investigator).
AŽD, s. r. o. Manufacturing Plant in Olomouc	Design and Analysis of Security Equipment for Rail Transport (Principal Investigator).
HBC steel guaranteed machining s.r.o. Olomouc	Optimization of Operational Processes (Principal Investigator).
Politechnika Kielce Kielce, PL	Preparation of the Study Program (Principal Investigator).
VaKo montáže s.r.o. Ostrava	Optimization of Operational Processes (Principal Investigator).
Vítkovice Heavy Machinery, a. s. Ostrava	Preparation of Working Images of the Day and Processing of Standards of Secondary Times for Selected Operations of Turning and Milling (<i>Co-Investigator</i>).

TAUGHT SUBJECT

Guarantor of Subject	3463001 – Technology of Machining (Bc.) 3463006 – Practical Class of Machining and Assembly (Bc.) 3460506 – Assembling Works and Automatization of Assembling Works (Mgr.) 3465007 – Technology of Assembly (Mgr.) 3460903 – Experimental Methods in Machining (Ph.D.)
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Lecture, Seminar	3460301 – Technology II (Bc.)
	3460318 – Technology of Machining (Bc.)
	3460316 – Bachelor Project II (Bc.)
	3460320 – Engineering Measurements and Metrology (Bc.)
	3460506 – Assembling Works and Automatization of Assembling Works (Mgr.)
	3460502 – Quality Control and Metrology (Mgr.)
	3460519 – Master Project II (Mgr.)
	3460907 – Engineering Metrology and Quality Management (Ph.D.)
	3460947 – Theory and Technology of Machining (Ph.D.)

TEXTBOOK, BOOK, SCRIPT, STUDY SUPPORTS

- [1] ČEP, R.; PETRŮ, J.; ŠAJGALÍK, M.; CZÁNOVÁ, T. *Moderné aplikácie technológií obrábania*. Žilina : KOVT Innovations, 2015. s. 422. ISBN 978-80-972236-1-8.
- [2] BRYCHTA, J.; CZÁN, A.; ČEP, R.; KRATOCHVÍL, J.; PETRŮ, J.; SADÍLEK, M.; STANČEKOVÁ, D.; ZLÁMAL, T. *Progresivní technologie v obrábění a NC programování obráběcích strojů*. Ostrava : Fakulta strojní VŠB-Technická univerzita Ostrava, 2014. s. 178. ISBN 978-80-248-3522-8.
- [3] PETRŮ, J.; ČEP, R. *Týmová cvičení z předmětu montážní práce a automatizace montážních prací*. Ostrava : Ediční středisko VŠB-Technická univerzita Ostrava, 2011 [cit. 2012-10-25]. Scripta electronica. s. 85. Dostupné na WWW:< <http://projekty.fs.vsb.cz/147/ucebniopory/978-80-248-2707-0.pdf>>. ISBN 978-80-248-2707-0.
- [4] PETRŮ, J.; ČEP, R. *Základy montáže* [online]. Ostrava : Fakulta strojní VŠB-Technická univerzita Ostrava, 2012 [cit. 2012-10-25]. Scripta electronica. s. 123. Dostupné na WWW:< <http://projekty.fs.vsb.cz/459/?ucebni-opory>>. ISBN 978-80-248-2773-5
- [5] PETŘKOVSKÁ, L.; PETRŮ, J. *Engineering Metrology and Assembly*. Ostrava : VŠB-Technická univerzita Ostrava, 2012, p. 57.
- [6] ČEP, R.; PETRŮ, J. *Experimentální metody v obrábění*. Ostrava : Katedra obrábění a montáže FS VŠB-Technická univerzita Ostrava, 2011, s. 143. ISBN 978-80-248-2533.
- [7] BRYCHTA, J.; ČEP, R.; PETRŮ, J. *Výrobní stroje obráběcí*. Ostrava : Fakulta strojní VŠB-Technická univerzita Ostrava, 2012. s. 123. ISBN 978-80-248-2938-8.
- [8] BRYCHTA, J.; SADÍLEK, M.; ČEP, R.; PETRŮ, J. *Progresivní metody v obrábění*. Ostrava : Katedra obrábění a montáže FS VŠB-Technická univerzita Ostrava, 2011, s. 144. ISBN 978-80-248-2513-7.
- [9] BRYCHTA, J.; ČEP, R.; NOVÁKOVÁ, J.; PETŘKOVSKÁ, L. *Návody do praktických cvičení z Technologie II*. Ostrava : Ediční středisko VŠB-Technická univerzita Ostrava, 2009, s. 88. ISBN 978-80-248-2147-4.
- [10] BRYCHTA, J.; ČEP, R.; NOVÁKOVÁ, J.; PETŘKOVSKÁ, L. *Technologie II 2. díl*. Ostrava : Ediční středisko VŠB-Technická univerzita Ostrava, 2008, s. 150. ISBN 978-80-248-1822-1.
- [11] BRYCHTA, J.; ČEP, R.; NOVÁKOVÁ, J. (20 %); PETŘKOVSKÁ, L. *Technologie II 1. díl*. Ostrava : VŠB-Technická univerzita Ostrava, 2007, s. 126. ISBN 978-80-248-1641-8.
- [12] BRYCHTA, J.; ČEP, R.; SADÍLEK, M.; PETŘKOVSKÁ, L.; NOVÁKOVÁ, J. *Nové směry v progresivním obrábění* [online]. Ostrava : Fakulta strojní VŠB-Technická univerzita Ostrava, 2007 [cit. 2009-1-8]. Scripta electronica. s. 251. Dostupné na WWW:<<http://www.elearn.vsb.cz/archivcd/FS/NSPO/>>. ISBN 978-80-248-1505-3.

TOP 10 RESULTS OF SCIENCE AND RESEARCH

Article with IF

- [1] CÁRACH, J.; HLOCH, S.; PETRŮ, J.; MULLER, M.; HROMASOVÁ, M.; NAG, A.; ČUHA, D.; HLAVÁČEK, P.; HATALA, M.; KRATOCHVÍL, J.; RUGGIERO, A. Evaluation of physical phenomena and surface integrity during hydroabrasive disintegration of the rotating workpiece with feedback loop control. In *Measurement*. Elsevier, Vol. 134, pp. 586 - 594, 2019. ISSN 0263-2241. DOI 10.1016/j.measurement.2018.11.009. (Počet citací: 0, IF 2,791, Q2, Web of Science, SCOPUS)
- [2] ČEP, R.; JANÁSEK, A.; PETRŮ, J.; SADÍLEK, M.; MOHYLA, P.; VALÍČEK, J.; HARNIČAROVÁ, M. CZÁN, A. Surface roughness after machining and influence of feed rate on process. In *PRECISION MACHINING VII*, 2014. DOI 10.4028/www.scientific.net/KEM.581.341. (Počet citací: 34, IF 0,224, Q3, Web of Science, SCOPUS)
- [3] CÁRACH, J.; HLOCH, S.; HLAVÁČEK, P.; ŠČUČKA, J.; MARTINEC, P.; PETRŮ, J. (10 %); ZLÁMAL, T.; ZELENÁK, M.; MONKA, P.; LEHOCKÁ, D.; KROLCZYK, J. Tangential turning of Incoloy alloy 925 using abrasive water jet technology. In *The International Journal of Advanced Manufacturing Technology*. Springer, Vol. 82, Issue 9 – 12, pp. 1747 - 1752, 2016. ISSN 0268-3768. DOI 10.1007/s00170-015-7489-0. (Počet citací: 12, IF 2,601, Q2, Web of Science, SCOPUS)
- [4] CÁRACH, J.; HLOCH, S.; PETRŮ, J.; NAG, A.; GOMBÁR, M.; HROMASOVÁ, M. Hydroabrasive disintegration of rotating Monel K-500 workpiece. In *The International Journal of Advanced Manufacturing Technology*. Springer, Vol. 96, Issue 1 – 4, pp. 981 - 1001, 2018. ISSN 0268-3768. DOI 10.1007/s00170-018-1653-2. (Počet citací: 4, IF 2,748, Q2, Web of Science, SCOPUS)
- [5] RADVANSKÁ, A.; PETRŮ, J.; MONKOVÁ, A.; ZLÁMAL, T.; HREHA, P. and all. Rationalization of manufacturing of plastic injection moulds by abrasive waterjet. In *Tehnicki Vjesnik – Technical Gazette*, 2015. Vol. 22, No. 2, pp. 521-525. ISSN 1330-3651. DOI 10.17559/TV-20130502125348. (Počet citací: 4, IF 0,686, Q4, Web of Science, SCOPUS)
- [6] PETRŮ, J.; ZLÁMAL, T.; ČEP, R.; SADÍLEK, M.; STANČEKOVÁ, D. The effect of feed rate on durability and wear of exchangeable cutting inserts during cutting Ni-625. In *Tehnicki Vjesnik – Technical Gazette*, 2017. Vol. 24, pp. 1-6. ISSN 1330-3651. DOI 10.17559/TV-20131221170237. (Počet citací: 0, IF 0,81, Q4, Web of Science, SCOPUS)
- [7] PETRŮ, J.; ZLÁMAL, T.; ČEP, R.; MONKOVÁ, K.; MONKA, P. Influence of Cutting Parameters on Heat Affected Zone after Laser Cutting. In *Tehnicki Vjesnik – Technical Gazette*, 2013. Vol. 20, No. 2, pp. 225-230. ISSN 1330-3651. (Počet citací: 13, IF 0,686, Q4, Web of Science, SCOPUS)

Patents and utility models

- [8] SLÍVA, A.; BOBOK, J.; PETRŮ, J.; ČEP, R. *Fluidizační šnekovnice, fluidizační šnekový dopravník a způsob dopravy obtížně tekoucího materiálu*. MPT: B 65 G 33/14, B 65 G 43/00. Česká republika. Patentový spis, CZ 304 285 B6. 2014-01-02.
Dostupné na: <http://spisy.upv.cz/Patents/FullDocuments/304/304285.pdf>
- [9] PETRŮ, J.; MRKVICA, I.; ZLÁMAL, T.; ČEP, R.; PAGÁČ, M. Mobilní zařízení pro chlazení obráběcích nástrojů s odsáváním a filtrací olejové mlhy. MPT: B 23 Q 11/10, B 01 D 35/00. Česká republika. Užité vzor, CZ 27719 U1. 2015-01-20.
Dostupné: <http://spisy.upv.cz/UtilityModels/FullDocuments/FDUM0027/uv027719.pdf>
- [10] MRKVICA, I.; PETRŮ, J.; ZLÁMAL, T.; ČEP, R.; PAGÁČ, M. *Upínací zařízení s přívodem procesní kapaliny k tělesu vrtáku*. MPT: B23B 51/12, B23B 43/00. Česká republika. Užité vzor, CZ 28 060 U1. 2015-04-09.
Dostupné: <http://spisy.upv.cz/UtilityModels/FullDocuments/FDUM0028/uv028060.pdf>

Ostrava 27. 10. 2020

Jana PETRŮ, v. r.