# CURRICULUM VITAE


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## SCIENTIFIC ORIENTATION:

Metrology and 3D measurement, optical 3D digitization in mechanical engineering, inspection of dimensional accuracy of parts, development and reverse engineering, additive technology, automation of production machines and control of servo drives.

## EDUCATION AND ACADEMIC QUALIFICATION

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|---|---|
| 2021 | **Associate Professor** in "Manufacturing Systems and Processes", Technical University of Liberec, Faculty of Mechanical Engineering |
| 2013 - 2015 | **The course of university pedagogy**, International Engineering Educator ***ING.PAED.IGIP*** 2015. |
| 2000 - 2006 | **Doctoral studies**, Technical University of Liberec, Faculty of Mechanical Engineering, Field of study: Manufacturing systems and processes, **Ph.D.** 2006. |
| 1995 - 2000 | **Engineering studies**, Technical University of Liberec, Faculty of Mechanical Engineering, Field of study: Manufacturing systems, **Ing.** 2000. |

## CAREER OVERVIEW

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|---|---|
| 2016 - yet | **Vice-head of the Department of Production Systems and Automation** for Science, Research and Development, Faculty of Mechanical Engineering, Technical University of Liberec |
| 2007 - yet | **Assistant Professor with a scientific degree**, Department of Manufacturing Systems and Automation, Faculty of Mechanical Engineering, Technical University of Liberec |
| 2011 - yet | **Head of the laboratory "3D measurement and digitization"** |
| 2013 - yet | **Lecturer - trainer**, Libeos, s.r.o., Liberec; Institute of Industrial Engineering, s.r.o., Liberec. |
| 2000 - 2011 | **Researcher at the "Research Centre of Manufacturing Technology / RCMT",** CTU Prague - workplace TU in Liberec |

## TEACHING PRACTICE

- **Teaching experience of 20 years.**
- **Guarantor and lecturer** of subjects in the Study Programmes of *Manufacturing Systems and Processes, Machine and Equipment Design, Applied Mechanics, Mechatronics*. Teaching in Czech and English.



- **Master's thesis supervisor** of more than 27 diploma thesis (of which 5 of foreign trainees in EN).
- **Author more than 20 teaching materials** in Czech and English.
- **Supervisor and author of more than 20 professional courses and seminars** for industrial partners.
- Professional lectures at international conferences and seminars, also for the public.

## SCIENTIFIC AND PROFESSIONAL PRACTICE

- Within the RCMT (2000 - 2011) **research focusing on the dynamics of high-precision position servomechanisms**. Currently (since 2011) professional experience mainly on **3D measurement and optical digitization, computer inspection (CAI), reverse engineering (RE), additive technology.**
- **Researcher, Co-researcher or member of the research team** of about 20 R&D, educational and development projects and grants.
- **Leader and solver of contract research projects** (2011 - yet) in the field of analysis of dimensional and shape inspection of parts and assemblies using optical 3D digitization. **Extensive cooperation with industrial practice** in this field (approximately 70 cooperating companies).
- **The building of one of the most modern laboratories of 3D optical measurement and digitization in the Czech Republic**. The laboratory is a comprehensive workplace at TUL for solving 3D digitization and inspection tasks intended for science and research, teaching and applications intended for industry.

## PUBLISHING ACTIVITIES

- **Author or co-author of the results of applied research** (utility model, SW, functional samples).
- **Author or co-author of publications** in impacted or reviewed journals and at scientific conferences - more than 56 papers, of which 28 publications included in databases (WoS + Scopus).
- **Number of citations** (without self-citations) **in databases** (WoS, Scopus) more than **50**.
- **Participation in 16 research reports** within the project *Research Centers: LN00B128 - "Center for Mechanical Engineering and Technology"* and *1M0507 - "Research in Mechanical Engineering and Technology".*
- **Author of 12 summary research reports** within the solution of contract research projects in the field of 3D measurement and RE.

## RECOGNITION BY THE SCIENTIFIC COMMUNITY, MANAGEMENT ACTIVITIES

- **Member of the editorial board of an international scientific journal, membership in more than 10 scientific and organizational committees of international conferences**, member of the editorial board of the journal.
- **Lecturer's reviews** - reviewer of papers in international scientific journals (WoS, Scopus).
- **Opponents of R&D projects**.
- **Head of research and project teams** (eg head of research team of about 50 people of project SGS / TUL No. 21130 "Research and development in the field of 3D technologies, production systems and automation"; leader of the group of lecturers (guarantor of scientific and technical fields) of project "EduTech"; manager of project "TKMOST".



## SELECTED PUBLICATIONS (last 5 years)


- JANDOVA, S. a R. **MENDRICKY**. Benefits of 3D Printed and Customized Anatomical Footwear Insoles for Plantar Pressure Distribution. *3D Printing and Additive Manufacturing* [online]. August 2021, 3dp.2021.0002 [vid. 2021-09-16]. ISSN 2329-7662, 2329-7670. DOI:10.1089/3dp.2021.0002
- **MENDRICKY**, R. a K. KUBIKOVA. The Factors Affecting the Stamping Surface Assessment by the ABIS II Sensor. *MAPAN - Journal of Metrology Society of India* [online]. April 2021. ISSN 0970-3950, 0974-9853. DOI:10.1007/s12647-021-00445-1.
- **MENDRICKY**, R. a V. KAFKA. Analysis of the Accuracy of Virtual Clamping in the Field of 3D Scanning. *MM Science Journal*. MM publishing Ltd., March 2021. Vol. 2021, no. 1, p. 4244–4253. ISSN 1803-1269 (Print), ISSN 1805-0476 (On-line), DOI: 10.17973/MMSJ.2021_03_2020068.
- JANDOVÁ, S., R. **MENDŘICKÝ** a M. JAŠUREK. Development of 3D printed insoles. In: *The 58th International Scientific Conference Experimental Stress Analysis: EAN 2020 - Experimental Stress Analysis*. Brno: VŠB - Technická univerzita Ostrava, 2020, s. 160–164. ISBN 978-80-248-4451-0.
- **MENDRICKY**, R. a J. SOBOTKA. Accuracy Comparison of the Optical 3D Scanner and CT Scanner. *Manufacturing Technology*. 2020, 20(6), 791–801. ISSN 12132489, 12132489. DOI: 10.21062/mft.2020.120
- **MENDŘICKÝ**, R. a D. FRIŠ. Analysis of the Accuracy and the Surface Roughness of FDM/FFF Technology and Optimisation of Process Parameters. *Tehnički vjesnik*. 2020, 27(4), 1166–1173. ISSN 1330-3651 (Print), 1848-6339 (Online). DOI: 10.17559/TV-20190320142210
- **MENDRICKY**, R. a V. MALY. Draft design solution for automated 3D scanning of persons. *MM Science Journal*, MM publishing Ltd., December 2019, Vol. 2019, no. 05, p. 3418–3425. ISSN 1803-1269 (Print), ISSN 1805-0476 (On-line), DOI: 10.17973/MMSJ.2019_12_2019005.
- ACKERMANN, M., J. ŠAFKA, L. ČAPEK, J. BOBEK a R. **MENDŘICKÝ**. Selective laser melting technology and individual Ti-6Al-4V implants. *MM Science Journal*, MM publishing Ltd., June 2019. Vol. 2019, no. 02, p. 2867–2871. ISSN 1803-1269 (Print), ISSN 1805-0476 (On-line), DOI: 10.17973/MMSJ.2019_06_2018123.
- **MENDRICKY**, R. a O. LANGER. Influence of the Material on the Accuracy of Optical 3D Digitalisation. *MM Science Journal.* MM publishing Ltd. 2019, 2019 (March), pp. 2783–2789. ISSN 18031269, 18050476. DOI:10.17973/MMSJ.2019_03_2018121
- DOSTALOVA, T., M. KASPAROVA, K. CHLEBORAD, M. JELÍNEK, P. BRADNA a R. **MENDRICKY**. Intraoral scanner and stereographic 3D print in orthodontics. *In: Progress in Biomedical Optics and Imaging - Proceedings of SPIE: Lasers in Dentistry XXV* [online]. San Francisco, California, United States: SPIE, 2019. ISBN 978-1-5106-2356-9. DOI:10.1117/12.2507233.
- SRIKANTHAN, A., R. **MENDRICKY** a P. KELLER. Development of Reverse Engineering Methododolgy for the Production of Machine Part. *MM Science Journal*. MM publishing Ltd. 2018, 2018 (October), 2429–2435. ISSN 18031269, 18050476. DOI:10.17973/MMSJ.2018_10_2017116.

- **MENDŘICKÝ**, R. Impact of Applied Anti-Reflective Material on Accuracy of Optical 3D Digitisation. In: *Materials Science Forum* [online]. Switzerland: Trans Tech Publications, 2018, s. 335–344. Novel Trends in Production Devices and Systems IV. ISBN 978-3-0357-1265-0. DOI:10.4028/www.scientific.net/MSF.919.335.
- **MENDRICKY**, R. Aspects Affecting Accuracy of Optical 3D Digitization. *MM Science Journal*. MM publishing Ltd. 2018, 2018 (March), 2267–2275. ISSN 18031269, 18050476. DOI:10.17973/MMSJ.2018_03_2017106.
- DOSTALOVA, T., M. KASPAROVA, P. KRIZ, S. HALAMOVA, M. JELINEK, P. BRADNA a R. **MENDRICKY**. Intraoral scanner and stereographic 3D print in dentistry - quality and accuracy of model - new laser application in clinical practice. *Laser Physics* [online]. 2018, 28(12), 125602. ISSN 1054-660X, 1555-6611. DOI:10.1088/1555-6611/aae067. IF: 1,23.
- **MENDŘICKÝ**, R. Using Contactless Scanners for Quality Inspection. In: *MATEC Web of Conferences* [online]. B.m.: France: EDP Sciences, 2017, s. 4 pages. ISSN 2261-236X. DOI: 10.1051/matecconf/20178901011.
- MANTADA, P., R. **MENDRICKY** a J. SAFKA. Parameters Influencing the Precision of Various 3D Printing Technologies. *MM Science Journal*. MM publishing Ltd. 2017, 2017(05), 2004–2012. ISSN 18031269, 18050476. DOI:10.17973/MMSJ.2017_12_201776.
- **MENDŘICKÝ**, R. Using contactless scanning for quality control of automotive parts. *Materials Science Forum.* 1. vyd. Trans Tech Publications, 2016. S. 324 – 333. ISSN 02555476, DOI 10.4028/www.scientific.net/MSF.862.324.
- MANLIG, F., F. KOBLASA, R. **MENDŘICKÝ**, P. KELLER, P. ZELENÝ, R. VOTRUBEC a M. MOUČKA. Na cestě ke vzdělávání 4.0. Control Engineering. 0. ed. Český Těšín: Trade Media International s.r.o., 2016, vol. 84, issue 5. pp. 32 – 37. ISSN 1896-5784.
- **MENDŘICKÝ**, R. Accuracy Analysis of Additive Technique for Parts Manufacturing. *MM Science Journal.* MM publishing Ltd., 2016, No. November, Pp. 1502 – 1508. ISSN 1803-1269. DOI 10.17973/MMSJ.2016_11_2016169.
- **MENDŘICKÝ**, R. Determination of Measurement Accuracy of Optical 3D Scanners. *MM Science Journal.* MM publishing Ltd., 2016, No. December, Pp. 1565 – 1572. ISSN 1803-1269. DOI 10.17973/MMSJ.2016_12_2016183.
- **MENDŘICKÝ**, R. Analysis of measurement accuracy of contactless 3D optical scanners. *MM Science Journal*, vol. 2015, no. OCTOBER, pp. 711-716, ISSN 1803-1269 doi:10.17973/MMSJ.2015_10_201541.
- **MENDŘICKÝ**, R. a P. KELLER. Parameters influencing the precision of SLM production. *MM Science Journal*, vol. 2015, no. OCTOBER, pp. 705-710, ISSN 1803-1269 doi:10.17973/MMSJ.2015_10_201540.
- **MENDŘICKÝ**, R. a KELLER, P. 3D skenery pro použití v průmyslu. *AUTOMA – časopis pro automatizační techniku.* 1. vyd. Praha, 2015, roč. 2015, č. 12. S. 34 – 37. ISSN 1210-9592.
- ŠAFKA, J., ACKERMANN, M., **MENDŘICKÝ**, R. a TUHÁČEK, D. Shape and Size Accuracy of 3D-printed AlSi12 Parts. *Acta Metallurgica Slovaca.* 4. vyd. Slovenská republika: Technical University of Kosice, 2015, Vol. 21, No. 4, pp 278 – 284. ISSN 1335-1532.