

Ing. Ladislav Cvrček, Ph.D.

12.4.1974	Born in Počátky
1992-1997	Study of Physics of technological processes and physical technologies at Faculty of Applied Sciences, University of West Bohemia, Pilsen (Ing., an equivalent to MSc.)
1997-2000	Postgraduate study of Plasma physics and physics of thin films at Faculty of Applied Sciences, University of West Bohemia, Pilsen
2002	Scientific title Ph.D.
2000-2013	HVM Plasma, spol. s r.o., Prague, researcher, research development and application of new coatings (hard and wear resistant coatings, corrosion resistant coatings, biocompatible coatings)
from 2013	Department of Materials Engineering, Faculty of Mechanical Engineering, Czech Technical University in Prague, assistant professor, research, development and application of coatings

Research and educational activities:

- development and application of new coatings and surface treatments
- hard wear resistant coatings, corrosion resistant coatings and biocompatible coatings
- 3D printing of biocompatible materials from metal and polymer powders (analysis of mechanical, chemical and microstructure properties)
- investigator or co-investigator of projects focused on research and application of surface treatments and additive technologies for medical implants (Technological Agency of the Czech Republic, Czech Health Research Council)
- lecturer of Biocompatibility and Biotolerancy, Experimental methods in Material Science, Surfaces and interfaces

Other activity:

- reviewer of several journals on Material Science
- reviewer of project proposals for the Technological Agency of the Czech Republic, evaluation of the project results

Bibliography:

23 papers in impacted journals, 10 papers in non-impacted journals, 2 book chapters, 167 citations (WoS), h-index 7 (WoS)

Chapter in book

CVRČEK, Ladislav, František DENK a Zdeněk ČEJKA. Comparison of 3D printed trabecular structure with porous plasma spray: A method based on mapping the local modulus of elasticity. *Materials Research Express* [online]. 2020, 7(7)

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Plasma modified polymeric materials for implant applications, in: *Non-Thermal Plasma Technology for Polymeric Materials: Applications in Composites, Nanostructured Materials and Biomedical Fields*, 1st ed., Elsevier, 2018. ISBN 9780128131527. DOI: doi:10.1016/B978-0-12-813152-7.00014-7.

Articles

Cvrcek, Ladislav, František DENK a Zdeněk ČEJKA. Comparison of 3D printed trabecular structure with porous plasma spray: A method based on mapping the local modulus of elasticity. *Materials Research Express*. 2020, 7(7). DOI:10.1088/2053-1591/aba147

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Joska, L., Fojt, J., **Cvrcek, L.**, Brezina, V. Properties of titanium-alloyed DLC layers for medical applications, (2014) *Biomatter*, 4. Cited 5 times. DOI: 10.4161/biom.29505

Franta, L., Fojt, J., Joska, L., Kronek, J., **Cvrcek, L.**, Vyskocil, J., Cejka, Z. Hinge-type knee prosthesis wear tests with a mechanical load and corrosion properties monitoring, (2013) *Tribology International*, 63, pp. 61-65. Cited 1 time. DOI: 10.1016/j.triboint.2012.02.014

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Silvennoinen, R., Hasoň, S., Vetterl, V., Penttinen, N., Silvennoinen, M., Myller, K., Černochová, P., Bartáková, S., Prachár, P., **Cvrček, L.** Diffractive-optics-based sensor as a tool for detection of biocompatibility of titanium and titanium-doped hydrocarbon samples, (2010) *Applied Optics*, 49 (29), pp. 5583-5591. Cited 7 times. DOI: 10.1364/AO.49.005583

Joska, L., Fojt, J., Hradilova, M., Hnilica, F., **Cvrcek, L.** Corrosion behaviour of TiN and ZrN in the environment containing fluoride ions, (2010) *Biomedical Materials*, 5 (5), art. no. 054108, . Cited 6 times. DOI: 10.1088/1748-6041/5/5/054108

Polcar, T., Vitu, T., **Cvrcek, L.**, Novak, R., Vyskocil, J., Cavaleiro, A. Tribological behaviour of nanostructured Ti-C:H coatings for biomedical applications, (2009) *Solid State Sciences*, 11 (10), pp. 1757-1761. Cited 23 times. DOI: 10.1016/j.solidstatesciences.2008.10.006

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