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BIOGRAPHY:

prof. Ing. Radim Halama, Ph.D.



Radim Halama was born on June 22, 1977. He completed his secondary education at the Secondary Technical School of Mechanical Engineering in Frýdek-Místek in 1995 and subsequently enrolled at the Faculty of Mechanical Engineering of VŠB–Technical University of Ostrava. In 2000, he graduated with an Ing. (M.Sc.) degree in Applied Mechanics, defending a diploma thesis on finite element analysis of torsion in non-circular cross-sections. He continued with doctoral studies at the same institution, obtaining his Ph.D. in Applied Mechanics in 2006 with a dissertation on elastoplastic contact stress analysis of curved bodies using FEM. In 2010, he defended his habilitation thesis entitled “Experimental findings and phenomenological modeling of cyclic plasticity of metals” and was appointed Associate Professor. In 2019, he was appointed Full Professor in Applied Mechanics.

Since 2003, he has been continuously affiliated with the Faculty of Mechanical Engineering at VŠB–Technical University of Ostrava, where he served as Head of the Department of Mechanics of Materials (2007-2014) and the Department of Applied Mechanics (2015-2017). Between 2011 and 2017, he also worked as a senior researcher and leader of the Non-linear Mechanics research group at the IT4Innovations National Supercomputing Center. At the executive university level, he served as Vice-Rector for International Relations and Social Affairs (2017) and Vice-Rector for Commercialization and Industry Cooperation (2018). He currently acts as the guarantor of the Industrial Design study program.

His research expertise focuses on computational and experimental solid mechanics, constitutive modeling of cyclic plasticity, low-cycle and multiaxial fatigue, digital image correlation (DIC), and additive manufacturing of metallic alloys. Currently, he leads Working Group 4.7 (Low-Cycle Fatigue) within the EU COST Action CA23109 (FABER). He has authored or co-authored dozens of scientific papers in international peer-reviewed impact-factor journals and book chapters. He is a co-inventor of an authorized European patent and a Czech patent awarded the Prize of the President of the Czech Academy of Sciences (2016). He led more than a dozen contract research projects for the industry.

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Selected publications related to the lecture:

Halama, R. and Kourousis, K. (2025), "Ratcheting performance of maraging steel fabricated via laser powder bed fusion: experimental evaluation and numerical prediction", *International Journal of Structural Integrity*, Vol. 16 No. 2, pp. 403-429. https://doi.org/10.1108/IJSI-11-2024-0188

Halama, R., Šmach, J., Govindaraj, B., and Čep, R., "The Chaboche Nonlinear Kinematic Hardening Model for Cyclic Plasticity Modeling," in *Fatigue Damage in Metals*, Elsevier, 2026, p. 89-116. doi:10.1016/B978-0-12-823341-2.00001-X.

Halama, R., Šmach, J., Govindaraj, B., and Čep, R., "Technical note 3. Chaboche model with memory implemented in Python code," in *Fatigue Damage in Metals*, Elsevier, 2026, p. 117-148. doi:10.1016/B978-0-12-823341-2.00004-5.

Halama, R., Markopoulos, A., Šmach, J., and Govindaraj, B., "Theory, application, and implementation of modified Abdel–Karim–Ohno model for uniaxial and multiaxial fatigue loading," in *Fatigue Damage in Metals*, Elsevier, 2026, p. 149-186. doi:10.1016/B978-0-12-823341-2.00009-4.

Halama, R., Markopoulos, A., Šmach, J., and Govindaraj, B., "Technical note 4. Modified Abdel-Karim-Ohno model implemented in Python code," in *Fatigue Damage in Metals*, Elsevier, 2026, p. 187-206. doi:10.1016/B978-0-12-823341-2.00011-2.

Das, P., Halama, R., Natarajan, A.V., Khutia, N., Dey, PP., Kunčická, L., Hajnyš, J., Kocich, R. and Sari, F. (2024). Constitutive modelling and damage prediction of AlSi10Mg alloy manufactured by SLM technology with emphasis on ratcheting in LCF regime. *International Journal of Fatigue* 181, 108115. https://doi.org/10.1016/j.ijfatigue.2023.108115

Halama, R., Macek, W., Tomiczek, B., Poruba, Z., Sari, F., Rahimi, J., Mesicek, J . and Berto, F. (2026). Prediction of ratcheting and LCF damage using a memory surface in cyclically hardening additively manufactured AlSi10Mg with enhanced uniaxial ratcheting resistance. *International Journal of Fatigue*, 109658. https://doi.org/10.1016/j.ijfatigue.2026.109658