

Oddělení mechanických vlastností zve na přednášku

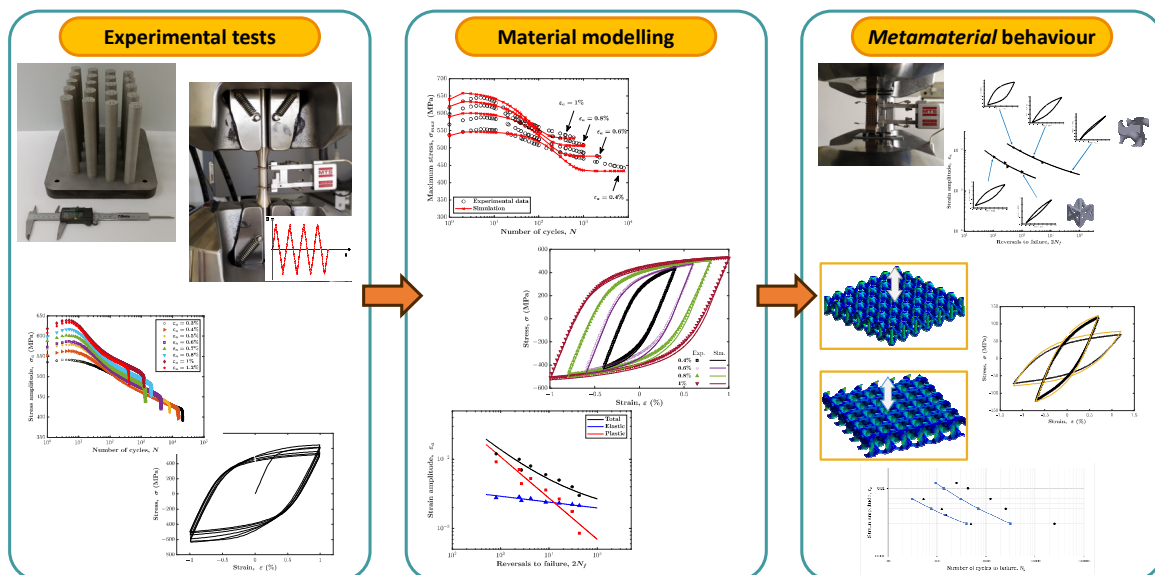
která se bude konat v pátek
8. 12. 2023 v 10:00 h
v přednáškovém sále ve 4. patře

Low cycle fatigue behaviour of additively manufactured AISI 316L steel bulk and cellular materials

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The presentation comprises two strictly connected parts. The first part will be dedicated to the low cycle fatigue (LCF) behaviour of a 316L steel tested under cyclic uniaxial loading conditions in strain control mode. The cyclic elastoplastic response and fatigue life curve were modelled using cyclic plasticity models and the well-known Manson-Coffin relationship, respectively. Some investigations on the microstructure of the material will also be presented, together with residual stress analyses of specimens before and after cyclic loading. In the second part of the presentation, the behaviour of cellular structures subjected to LCF loading will be faced from an experimental and numerical point of view. The cellular specimens were produced with the same 316L steel using L-PBF. Results from FE simulations are compared with the experimental data to elucidate differences and validate the predictive model.



Prof. Ing. Pavel Hutař, Ph.D.
vedoucí oddělení mechanických vlastností