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Czech Society for Mechanics,
International Measurement Confederation,
and Institute of Theoretical and Applied Mechanics, CAS

invite you to a lecture and discussion within the lecture series **ITAM Seminar**

Development, fabrication and characterisation of cellular (meta)materials

given by

Prof. Matej Vesenjak
Faculty of Mechanical Engineering
University of Maribor, Slovenia

The presentation will give a short overview of cellular metamaterials in general. Their properties, fabrication procedures and application possibilities will be briefly discussed. Then their geometrical characterisation, experimental testing, and computational modelling within the finite element method of various cellular metal types will be described.

The geometrical characterisation is based on the analysis of computed tomography scans and proper recognition of their internal cellular structure, considering the stochastic distribution of morphological and topological properties. The results of the conducted geometrical analysis provided means to develop a methodology for proper geometrical modelling of irregular cellular materials and consequent formation of computational models. Extensive experimental testing at various loading conditions supported by infrared thermography and direct image correlation was performed to evaluate the mechanical properties and deformation mechanisms of analysed specimens and to validate the developed computational models.

**The lecture will be held on Tuesday, October 18, 2022 at 10:00 AM
at ITAM, Prague, small lecture room.**

The lecture will be also streamed using the zoom platform

<https://cesnet.zoom.us/j/93120560237?pwd=Mm9UVG13SDFRZkJOVjdDTmc5R2dTdz09>
Meeting ID: 931 2056 0237
Passcode: 440202

Lecture 2022/09
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