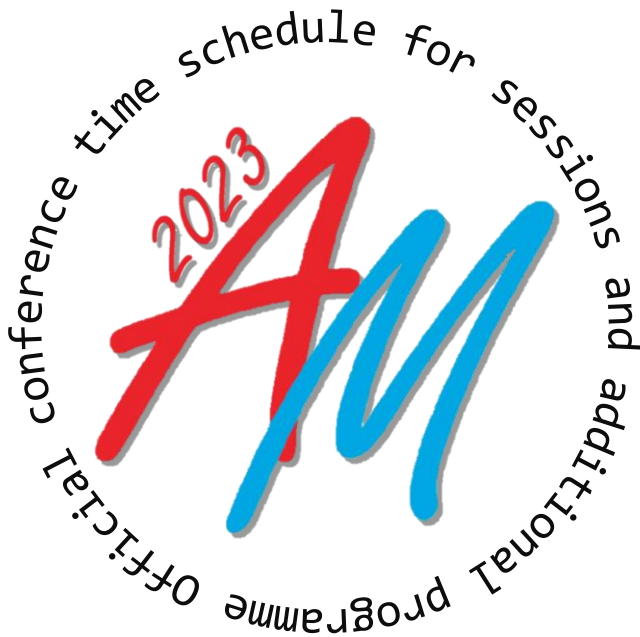


CONFERENCE PROGRAMME



Applied Mechanics 2023
19th – 21st April
Piešťany-Banka, Slovakia

GRAND HOTEL SERGIJO RESIDENCE****

11:00

REGISTRATION x ACCOMMODATION x REGISTRATION x ACCOMMODATION

12:00

12:00

LUNCH LUNCH LUNCH LUNCH LUNCH LUNCH LUNCH LUNCH LUNCH LUNCH

13:30

13:50

OPENING x PLENARY SESSION

prof. Ing. Justín Murín, DrSc. et al.

Structural analysis of mechanical and mechatronic systems made of nylon springs with negative thermal expansion

14:30

14:30

[SECTION A] Chairman: Ing. Zdeněk Padovec, Ph.D.

Ing. Marián Handrik, PhD. et al. x Comparison of manufacturing costs and mechanical properties of specimens printed by extrusion technologies

Ing. Jaroslav Majko, PhD. et al. x Normality test and correlation analysis of tensile test results of additively manufactured composites

prof. Ing. Roland Jančo, PhD. x Current possibilities of numerical simulation of welding process

Ing. Anna Tošková et al. x Determining the life of multi-axially loaded welded joints using low-cycle fatigue criteria

prof. Ing. Radim Halama Ph.D. et al. x Low-cycle fatigue and cyclic plasticity of vertically built specimens from recycled powder of AlSi10Mg

Ing. Dušan Tichoň et al. x Can stochastic approach improve residual fatigue life estimation of railway axles?

16:00

16:00

COFFEE BREAK COFFEE BREAK COFFEE BREAK COFFEE BREAK

16:30

16:30

[SECTION B] Chairman: Ing. Juraj Paulech, PhD.

doc. Ing. Michal Hajžman, Ph.D. et al. x On the multibody modelling and numerical simulations of road and rail vehicles

Ing. Pavol Dlhý, Ph.D. et al. x Residual stresses in the railway axles and how to determine them

Ing. Zdeněk Padovec, Ph.D. et al. x Influence of fiber material on shape and stress state in various domes for composite pressure vessels

doc. Dr. Ing. Pavel Polach et al. x Towards hydrodynamic lubrication and system dynamics related to textured surfaces

Ing. Martin Mánek et al. x Measurement of mechanical properties of aluminum alloy in high strain rate

Ing. Lucie Malíková, Ph.D. et al. x High-strength steels: fatigue and corrosion

Ing. Martin Štiglic, Ph.D. x SVS FEM presentation

18:15

19:00

EVENING x DINNER x EVENING x DINNER x EVENING x DINNER

7:00

BREAKFAST BREAKFAST BREAKFAST BREAKFAST BREAKFAST BREAKFAST

8:30

8:45

[SECTION C] Chairman: prof. Ing. Justín Murín, DrSc.
Ing. Jiří Venský et al. x Novel approach for mass sensing using non-linear micromechanical resonators
Ing. Radek Kubíček et al. x Finite element analysis of crack tip plastic zones in 3D
Ing. Katarína Pijáková et al. x Analysis of elastoplastic continuum mechanics problems applying the Karray-Bouc-Wen model and velocity solution using FEM
Ing. Barbora Drvářová et al. x Software implementation of the FEM velocity formulation into Prandtl-Reuss relations for solving elastoplastic continuum mechanics problems
Ing. Pavol Michal et al. x Numerical analysis of dynamic properties of composite structures

10:00

10:00

COFFEE BREAK COFFEE BREAK COFFEE BREAK COFFEE BREAK

10:20

10:20

[SECTION D] Chairman: doc. Ing. Luboš Náhlík, Ph.D.
Ing. Jan Pařez et al. x Development and application of a 3D FEM model for rotor thermal bow prediction
Ing. Adam Kratochvíl et al. x Mechanics of stabilization in reverse shoulder arthroplasty
Ing. Katarína Mendová et al. x Experimental and analytical evaluation of the biomechanics of liposomes
Ing. Ondřej Zoufalý et al. x Optimization of a 3D printed ankle-foot-orthosis
Ing. Kristýna Kubášová et al. x Possibilities of mechanical testing and evaluation of rib fractures

11:35

11:45

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13:00

13:05

MILITARY MUSEUM EXCURSION MILITARY MUSEUM EXCURSION

16:00

17:00

COFFEE BREAK COFFEE BREAK COFFEE BREAK COFFEE BREAK

17:30

17:30

Schaeffler presentation

18:00

19:00

EVENING x DINNER x EVENING x DINNER x EVENING x DINNER

7:00

BREAKFAST BREAKFAST BREAKFAST BREAKFAST BREAKFAST BREAKFAST

8:30

8:45

[SECTION E] Chairman: doc. Ing. Milan Vaško, PhD.
Ing. Zdenko Šavrnoch et al. x Contribution to the creation of computational models in the MSC.Adams
Ing. Jan Blokeš et al. x Application of MSC Adams in Tatra Trucks a.s.
Ing. Martin Hrabačka et al. x Efficient implementation of constraint equations in multibody dynamics
Ing. Lukáš Horák et al. x Effect of temperature of adhesively bonded composite on loading of pure mode I and II
Ing. Adam Tater et al. x Hypersonic non-equilibrium laminar flow solver development within OpenFOAM framework
Ing. Marek Klemenc et al. x Fluid-structure interaction analysis of the VVER-1000 reactor pressure vessel internals at the large break loss of coolant accident on the hot leg of the main coolant pipeline

10:15

10:15

COFFEE BREAK COFFEE BREAK COFFEE BREAK COFFEE BREAK

10:35

10:35

[SECTION F] Chairman: doc. Dr. Ing. Pavel Polach
Ing. Patrik Kovář et al. x Comparison of multilayer perceptron and higher order neural network's ability to solve initial value problem
Ing. Andrej Ůrge et al. x Experimental and numerical analysis of mechanical properties of composite sandwich structure
Ing. Michal Miloslav Uličný et al. x Design of the mechanical component for piezoelectric energy harvesting
Ing. Gabriel Gálik, PhD. et al. x Experimental measurements of nylon coil spring thermal properties
Ing. Ladislav Šarkán et al. x Speed control of DC motor - educational model

11:50

12:00

LUNCH LUNCH LUNCH LUNCH LUNCH LUNCH LUNCH LUNCH LUNCH LUNCH

13:30