



**11<sup>TH</sup> INTERNATIONAL SCIENTIFIC SESSION APPLIED MECHANICS**  
NOVEMBER 18, 2022, VIRTUAL-ONLINE, BYDGOSZCZ

**Important remarks**

1. The conference will be held remotely at: <https://meet.jit.si/AppliedMechanics2022>.
2. Due to the participants from Ukraine, it should be noted that in Poland it is 9:00 AM, and in Ukraine - 10:00 AM. The hours in the schedule below refer to the time in Poland.
3. The hours of presentations in the schedule below may change (shortening of the session) due to the war in Ukraine and possible difficulties with access to the Internet.
4. Each presentation should last up to 15 minutes.

**Session schedule**

**Session opening (8:50-9.00)**

Chairman of the Organizing Committee: **Jerzy Sawicki**

Chairman of the Scientific Committee: **Tomasz Piątkowski**

**Session 1 (9.00 – 10.00, session chair: Tomasz Piątkowski):**

1. Wojciech Batko, Andrzej Bąkowski, Leszek Radziszewski, *Analysis of selected rules of decibel transformations of measurement results in acoustic studies of traffic noise*, PL.
2. Emil Smyk, Marek Markowicz, Miroslav Jopek, *PIV measurements of velocity of synthetic jet*, PL. CZ.
3. Ryszard Dindorf, Piotr Woś, *Optimizing the hybrid control structure of the hydraulic actuator with attached vibroisolator*, PL.
4. Piotr Woś, Ryszard Dindorf, *Develop and Implement a masonry algorithm control in a bricklaying robot*, PL.

**Discussion (10.00 – 10.10).**

**Session 2 (10.10 – 11.25, session chair: Adam Podhorecki):**

1. Dariusz Skibicki, *Analysis of the Tanaka non-proportionality parameter for fatigue loadings*, PL.
2. Dariusz Mrozik, Łukasz Pejkowski, *Tensile constitutive behavior modeling of 3D printed polylactide (PLA) using visco-elastic-visco-plastic model*, PL.
3. Tomasz Tomaszewski, *Size effect analysis in high-cycle fatigue of selective laser melted AlSi10Mg aluminium alloy*, PL.
4. Przemysław Strzelecki, *Comparison of different methods to estimate parameters of the Weibull distribution for fatigue strength*, PL.
5. Mykhaylo Delyavskyy, Krystian Rosiński, Justyna Sobczak-Piąstka, Dariusz Buchaniec, Yuriy Famulyak, *Solution of thin rectangular plates with various boundary conditions*, PL.

**Discussion (11.25 – 11.35).**

**Session 3 (11.35 – 12.35, session chair: Jerzy Sawicki):**

1. Robert Kostek, Karol Rak, *An experimental investigation of topography of technical surfaces*, PL.
2. Robert Kostek, *Algorithms of identification of car body contact parameters from a movie of crash test*, PL.

3. Weronika Kruszelnicka, Kingsly R. P. Ambrose, Andrzej Tomporowski, Patryk Leda, *Breakage of rice grains under repeated loading*, PL.
4. Adam Mroziński, Jakub Grela, Maciej Łowisz, Selected aspects of heat recovery simulation in houseboat installations, PL.

**Discussion** (12.35 – 12.45).

**Session 4** (12.45 – 14.00, session chair: **Yuriy Famulyak**):

1. Oleksandr Zhuravskiy, Lyudmila Afanasieva, *Prospects for the development of high-rise construction in Ukraine*, UA.
2. Mechyslav Chekanovych, *Stress-strain state of reinforced concrete beams strengthened with a flexible rod-roller system*, UA.
3. Oksana Bilash, Mykola Slobodian, Roman Seliverstov, Ivan Zvizlo, Oksana Petruchenko, Roman Kovalchuk, *Pure bending of a strip (beam) with a transversal through crack located asymmetrically relative to its axis on the assumption of crack closure and striplike plastic zone near one of the tips*, UA.
4. Klymov Yulli, Smorkalov Dmytro, *Experimental research of bending tensile strength of concrete reinforced with basalt fibers*, UA.
5. Oleg Kalmykov, Rabie Khalife, Konstantin Binkevich, *Configuration of a rational retaining wall surface*, UA.

**Discussion** (14.00 – 14.10).

**Session 5** (14.10 – 15.25, session chair: **Przemysław Strzelecki**):

1. Tomasz Janiak, Sviatoslav Homon, Victor Karavan, Petro Gomon, Svyatoslav, S. Gomon, Leonid Kulakovskiy, Yuriy Famulyak, *Mechanical Properties of Solid Deciduous Species Wood at Different Moisture Content*, PL, UA.
2. Andrii Kramarchuk, Borys Ilnytskyi, Oksana Lytvyniak, *The Influence of Fire Loading on the Bearing Prefabricated Reinforced Concrete Structures of Sports Rifle School in Rivne City*, UA.
3. Magdalena Lachowicz, Valerii Shmukler, Halina Kot, Leonid Vozniuk, Khrystyna Demchyna, *Use of innovative solutions in the area of construction process planning*, PL, UA.
4. Bohdan Demchyna, Vasylyna Hula, Leonid Vozniuk, *The experimental research of flexural strength and deformation of one-layer glass slabs that work on bending*, UA.
5. Oleksandr Hnatiuk, Mykola Lapchuk, Volodymyr Kosarchyn, Andriy Mazurak, Yurii Fabryka, *Definition of the bearing capacities of drilled reinforced concrete micropiles by the results of field tests*, UA.

**Discussion** (15.25 – 15.35).

**Session 6** (15.35 – 16.50), session chair: **Tomasz Janiak**):

1. Sobczak-Piąstka Justyna, Demchyna Bohdan, Roman Kozak, Paula Mejcher, Janusz Niemiec, *Assessment of the effect of lateral loss of stability for flat glass beams*, PL, UA.
2. Demchyna Bogdan, Vozniuk Leonid, Surmai Mykhailo, Havryliak Stepan, Yuriy Famulyak, *Experimental study of the dome model made using a 3d printer from plastic*, UA.
3. Justyna Sobczak-Piąstka, Yuriy Famulyak, Bogdan Demchyna, *Application of non-traditional reinforcement in structural elements made of cellular concrete*, PL, UA.
4. Sofiya Burchenya, *The Results of the Technical Inspection of the Production Building on Buika Street, house 24 in the city of Lviv*, UA.
5. Nataliia Imbirovych, Inna Boyarska, Oleksandr Povstyanoy, Krzysztof Kurdzydowski, Sviatoslav Homon, Leonid Kulakovskiy, *Modification of oxide coatings synthesized on zirconium alloy by the method of plasma electrolytic oxidation*, UA, PL.

**Discussion** (16.50 – 17.00).

**Session closing** (17:00-17:10)

Chairman of the Organizing Committee: **Jerzy Sawicki**