



PROGRAM

International Scientific Conference

**PROGRESSIVE TECHNOLOGIES AND MATERIALS IN MECHANICAL
ENGINEERING PRO-TECH-MA 2024**

18-19th September 2024, Rzeszów, Poland

WEDNESDAY 18TH SEPTEMBER 2024

8.30 – 10.00 Registration (*Rzeszow University of Technology, L Building, room 125*)

10.00-10.15 Conference Opening (*Rzeszow University of Technology, L Building, room 125*)

Prof. dr hab. inż. Feliks Stachowicz

Prof. Emil Spišák

SESSION I (L Building, room 125)

Chairperson: prof. dr hab. inż. Feliks Stachowicz

<i>10.15-10.30</i>	Marek Szewczyk, Joanna Zielińska-Szwajka, Krzysztof Szwajka, Tomasz Trzepieciński - <i>Application of Bending-Under-Tension Test to Determine the Tribological Behaviour of Steel Sheets</i>
<i>10.30-10.45</i>	Andrzej Kubit, Hamed Aghajani Derazkola, Koen Faes, Marcin Korzeniowski - <i>Fatigue Properties of Spot Joints of Metal-Plastic Composites with DP 800 Steel Prepared by Ultrasound Resistance Spot Welding</i>
<i>10.45-11.00</i>	Miroslav Tomáš, Marek Buber, Juraj Sulaček, Juliy Martyn Kulya, Emil Evin, Michal Fabian - <i>Utilisation of Modern Techniques When Evaluating the Shape of Pressings Made of Dual-Phase Steel</i>

11.00-11.30 Coffee Break

SESSION II (L Building, room 125)

Chairperson: prof. Ján Slota

11.30-11.45	Tomasz Zajdel, Wojciech Tasiór, Marcin Reiman, Tomasz Zajdel, Michal Zatek - <i>Development of a New Generation of Turbochargers for Large Engines That Meet Market Requirements and the Latest Emission Standards. Part 1.</i>
11.45-12.00	Tomasz Zajdel, Wojciech Tasiór, Marcin Reiman, Tomasz Zajdel, Michal Zatek - <i>Development of a New Generation of Turbochargers for Large Engines That Meet Market Requirements and the Latest Emission Standards. Part 2.</i>
12.00-12.15	Vladimír Rohaľ, Emil Spišák, Peter Mulidrán, Janka Majerníková - <i>Prediction of the fracture surface angle in fine blanking process of electrical steel</i>
12.15-12.30	Gerhard Mital, Emil Spišák, Ivan Gajdoš - <i>Testing of Polycarbonate FDM Specimens Against Abrasive Wear</i>

12.45 – Lunch Break (*Fabryka smaku, Akademicka 8*)

14.20 and 14.45 – Tour: Visiting Rzeszowskie Piwnice

20.00 – Dinner (*Fabryka smaku, Akademicka 8*)

THURSDAY 19TH SEPTEMBER 2024

SESSION IV (L Building, room 125)

Chairperson: dr hab. inż. Andrzej Skrzat, prof. PRz

10.00-10.15	Peter Mulidrán, Emil Spišák, Vladimír Rohaľ, Janka Majerníková - <i>Plywood-Based Forming Tools for Bending Sheet Metal</i>
10.15-10.30	Emil Spišák, Janka Majerníková, Peter Mulidrán, Ema Nováková-Marcinčinová - <i>Verification of the Properties of Steel Sheets at Different Stress-Strain States</i>
10.30-10.45	Jarosław Wójcik, Janusz Tomczak, Tomasz Kusiak - <i>The Influence of Sheet Metal Thickness on the Incremental Forming Process of Thin-Walled Components</i>
10.45-11.00	Tomasz Kusiak, Janusz Tomczak, Jarosław Wójcik - <i>Manufacturing of Bimetal Rods by Skew Rolling Process</i>
11.00-11.15	Miroslav Badida, Lydia Sobotova, Marek Moravec, Miroslava Badidova, Tibor Dzuro - <i>Research on the Acoustic Suitability of Recycled Textile</i>

	<i>Materials from the Automotive Industry</i>
<i>11.15-11.30</i>	<i>Ema Nováková-Marcinčinová, Emil Spišák, Janka Majerníková - The Effect of Changing the Parameters of Three-Dimensional Printing on the Mechanical Properties of Thermoplastics for Progressive Use in Mechanical Engineering Production</i>
<i>11.30-11.45</i>	<i>Dušan Sabadka, Štefan Kender, Albert Mareš - Analysis of Selected Properties of Composite Materials with Different Cross-Sectional Characteristics</i>

11.45-12.00 Coffee Break

SESSION V (L Building, room 125)

Chairperson: prof. Luboš Kaščák

<i>12.00-12.15</i>	<i>Marek Kowalik, Rafał Kowalik - Modification of the Internal Conical Clamp of the Kevlar Rope of Electromechanical Cables</i>
<i>12.15-12.30</i>	<i>Pavol Štefčák, Ivan Gajdoš, Ján Slotá, Jozef Varga - Low-Cost Slicer Alternative for 6-Axis Robotic Additive Manufacturing</i>
<i>12.30-12.45</i>	<i>Albert Mareš, Dušan Sabadka, Štefan Kender - Manual Assembly Process Simulation and Analysis and Improvement</i>
<i>12.45-13.00</i>	<i>Štefan Kender, Albert Mareš, Dušan Sabadka - Development of the Shell Eco Marathon Experimental Vehicle</i>

13.00 – Lunch (Fabryka smaku, Akademicka 8)

14.30-15.30 POSTER SESSION (L Building, room 125)

<i>Victor Eremeyev - On Surface Viscoelasticity and Anti-Plane Surface Waves</i>
<i>Irena Nowotyńska, Stanisław Kut - The Effect of Geometrical and Material Parameters on the Stress Distribution in Dies Compressed for Extrusion</i>
<i>Feliks Stachowicz - Effect of Deformation Rate on the Thermal Effect in Cold Forming of AW-1050 Aluminium</i>
<i>Marta Wójcik, Andrzej Skrzat, Andrzej Gontarz, Grzegorz Winiarski - Identification and Optimization of Chaboche Model Parameters on the Basis of Cyclic Loading Tests</i>
<i>Wiesław Frącz, Iwona Zarzyka, Tomasz Klepka, Łukasz Bąk, Grzegorz Janowski - Processing Problems of Polymer Compositions of Poly(3-hydroxybutyric acid) P3HB with</i>

<i>Polyurethane Modifiers</i>
Ľudmila Dulebová, Volodymyr Krasinskyi, Nickolas D. Polychronopoulos, Krzysztof Bajer, Oksana Krasinska - <i>Analysis of the Selected Properties of Bio(nano)composites Based on PBS</i>
Michal Fabian, Miroslav Tomáš, Miroslav Buber, Milan Hanečák - <i>Improving the Driving Characteristics of the Car for Driving in Extreme Terrain</i>
Ľuboš Kaščák, Miroslav Džupon, Emil Spišák, Ján Varga - <i>The Use of Replicas in the Evaluation of Tool Wear Used in Mechanical Joining</i>
Anna Guzanová, Dagmar Draganovská, Nikita Veligotskyi - <i>Application of Thermal Drilling in Metals-CFRP/GFRP Composites Joining</i>
Janette Brezinová, Miroslav Džupon, Ján Viňáš, Jakub Brezina - <i>Application of Progressive Methods in the Restoration of Injection Moulding Surfaces</i>
Jacek Mucha, Barbara Cieczińska - <i>Laser Processing of Adhesive Bonded Surfaces of Single-Lap Composite Joints</i>
Grzegorz Janowski, Wiesław Frącz, Łukasz Bąk, Grażyna Rzyzińska, Marta Wojcik - <i>Evaluation of Selected Processing, Utility and Mechanical Properties of PHBV-Buckwheat Husk Biocomposite</i>
Grzegorz Janowski, Wiesław Frącz, Łukasz Bąk, Janusz W. Sikora, Adam Tomczyk - <i>Recycling of PHBV-Coffee Grounds Composite in the Context of the Properties of Injection Molded Products</i>
Barbara Cieczińska, Jacek Mucha - <i>Comparative Analysis of the Strength of Single-Layer Adhesive Bonds with Conventionally and Laser Prepared Surfaces</i>
Lucjan Witek, Piotr Łabuński – <i>Influence of Temperature on the Damping Properties of Butyl Rubber and Bituminous Material</i>
Sławomir Woś, Waldemar Koszela, Andrzej Dzierwa, Paweł Pawlus - <i>Effect of Zonal Laser Texturing on Friction Reduction of Steel Elements in Lubricated Reciprocating Motion</i>
Grzegorz Janowski, Wiesław Frącz, Łukasz Bąk, Irena Krešić - <i>Modern Polymer Biocomposite PHBV- Sunflower Husks as an Alternative to Plastics of Petrochemical Origin</i>

15.30 – Closing of the Conference (L Building, room 125)