GENERAL PROGRAM OF THE CONFERENCE

Progressive Technologies and Materials in Mechanical Engineering
Pro-Tech-Ma 2025
25-27 June 2025, Sandomierz, Poland

Wednesday, 25.06.2025

17:00 – 19:30	Registration
19:30	Dinner

Thursday, 26.06.2025

8:30 – 9:00	Registration
9:00 – 9:15	Opening of conference and welcome speeches
9:15 – 10:15	Presentation session I
10:15 – 10:30	Coffee break
10:30 – 11:30	Presentation session II
11:30 – 11:45	Coffee break
11:45 – 12:45	Presentation session III
12:45 – 13:00	Group photo
13:00 – 14:00	Lunch
14:30 – 18:30	The sightseeing tour of Sandomierz
20:00	Gala dinner

Friday, 27.06.2025

10:30 – 11:30	Poster session I
11:30 – 11:45	Coffee break
11:45 – 12:45	Poster session II
12:45 – 13:00	Summary and conference closure
13:00 – 14:00	Lunch

DETAILED PROGRAM OF THE CONFERENCE

Progressive Technologies and Materials in Mechanical Engineering: Pro-Tech-Ma 2025
25-27 June 2025, Sandomierz, Poland

WEDNESDAY, 25.06.2025	
17:00 – 19:30	**Registration**
19:30	**Dinner**

THURSDAY, 26.06.2025	
8:30 – 9:00	**Registration**
9:00 – 9:15	**Opening of conference and welcome speeches** ***prof. dr hab. inż. Andrzej Gontarz***
9:15 – 10:15	**Presentation session I** ***prof. dr hab. inż. Andrzej Gontarz***
Peter Mulidrán, Emil Spišák, Janka Majerníková, Vladimír Rohaľ	*Utilization of additive manufacturing for production of bending tools*
Tomáš Jezný, Gerhard Mitaľ, Emil Spišák	*Research into the tribological properties of polycarbonate produced by 3D printing using FDM technology*
Emil Spišák, Janka Majerníková, Peter Mulidrán	*Optimization of technological parameters when drawing cups from steel sheets*
Viliam Kapraľ, Ivan Gajdoš, Volodymyr Krasinkyi	*Performance evaluation of feed opening section based on throughput metrics*
10:15 – 10:30	**Coffee break**
10:30 – 11:30	**Presentation session II** ***dr hab. inż. Andrzej Skrzat, prof. uczelni***
Vladimír Rohaľ, Emil Spišák, Janka Majerníková, Peter Mulidrán	*Numerical simulation of shearing electrical steel*
Ján Slota, Andrzej Kubit, Ivan Gajdos, Pavol Stefcak, Viliam Kapral	*Friction stir welding of aluminum alloys using a carbide tool: experimental and simulation-based analysis*

Emil Spišák, Janka Majerníková, Ema Nováková-Marcinčínová	*The influence of selected technological parameters on additively manufactured metal components printed by direct laser sintering*
Emil Spišák, Janka Majerníková, Peter Mulidrán	*Optimization of technological parameters when drawing cups from steel sheets*
Janette Brezinová, Ján Slota, Ján Viňáš, Jakub Brezina	*Possibilities of using manual laser welding in joining aluminum alloys*
11:30 – 11:45	**Coffee break**
11:45 – 12:45	**Presentation session III** ***doc. Ing. Janka Majerníková, PhD***
Kacper Preisnar	*Validation of turbocharger compressor cooling using pulsed heat pipes (PHP) using CFD simulations and bench tests*
Marek Kowalik, Rafał Kowalik, Paweł Maciąg, Piotr Paszta	*New tools for burnishing shafts and holes with the use of a braking torque on the burnishing roller*
Pavol Štefčák, Ivan Gajdoš, Ján Slota	*Determination of robotics additive manufacturing accuracy based on optical scanner*
Jarosław Wójcik, Janusz Tomczak, Tomasz Kusiak	*The influence of tools geometry on the incremental forming process of thin-walled components*
Gennady Mishuris	*Toughness averaging: Can we perform toughness upscaling with confidence?*
12:45 – 13:00	**Group photo**
13:00 – 14:00	**Lunch**
14:30 – 18:30	**The sightseeing tour of Sandomierz**
20:00	**Gala dinner**

DETAILED PROGRAM OF THE CONFERENCE

Progressive Technologies and Materials in Mechanical Engineering: Pro-Tech-Ma 2025
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FRIDAY, 27.06.2025	
10:30 – 11:30	**Poster session I** ***doc. Ing. Ivan Gajdoš, PhD***
Grzegorz Samołyk	*Simulation of casting and solidification with an example of a flowability test*
Anna Guzanová, Nikita Veligotskyi, Dagmar Draganovská	*Geometric modification of mechanical joints of metallic and composite thin-walled materials in order to increase load-bearing capacity*
Stanisław Kut, Grażyna Ryzińska	*The influence of the type of test in determining the constitutive equations of hyperelastic bodies*
Marta Wójcik, Andrzej Skrzat	*Numerical simulation of the KOBO extrusion process using coupled Eulerian-Lagrangian (CEL) modeling – Part 1*
Andrzej Skrzat, Marta Wójcik	*Numerical simulation of the KOBO extrusion process using coupled Eulerian-Lagrangian (CEL) modeling – Part 2*
Grażyna Ryzińska	*Influence of reinforcement type on SEA for impact energy absorbing composite elements*
Feliks Stachowicz	*Change of surface topography of copper and brass sheets as a result of plastic deformation*
Jarosław Bartnicki, Janusz Tomczak	*Implementation of the innovative ACPF (Asymmetric Cooling Process for Forgings) technology for the production of towing hooks*
11:30 – 11:45	**Coffee break**
11:45 – 12:45	**Poster session II** ***dr hab. inż. Stanisław Kut, prof. uczelni***
Piotr Surdacki, Andrzej Gontarz, Grzegorz Winiarski, Konrad Lis	*Analysis of the influence of tool speed on the cross-section of the formed ring during ring rolling in the sleeve*
Andrzej Gontarz, Piotr Surdacki, Grzegorz Winiarski, Konrad Lis	*Selected aspects of the rolling process of steel rings using sleeves*

Grzegorz Winiarski, Andrzej Skrzat, Marta Wójcik	*Analysis of selected fracture criteria in the radial extrusion process*
Jacek Michalczyk	*New unconventional extrusion methods for spline sleeves*
Łukasz Wójcik	*Physical modelling with plasticine for phenomena identification in cross-wedge rolling*
Konrad Laber, Jacek Madura, Dariusz Leśniak , Maciej Balcerzak, Marek Bogusz	*Elaboration and verification of dedicated material models of the EN AW-7021 aluminium alloy for numerical modelling of the industrial extrusion process of profiles from difficult-to-deform aluminum alloys through portholes dies*
Tomasz Kusiak, Janusz Tomczak, Jarosław Wójcik	*Effect of normalizing annealing on the microstructure and mechanical properties of bimetals produced in a CNC skew rolling mill*
Konrad Lis, Piotr Surdacki	*Analysis of the effect of skew rolling parameters on the radial force using machine learning methods*
Iwona Zarzyka, Wiesław Frącz, Grzegorz Janowski, Łukasz Bąk	*Selected processing problems of chosen compositions PHA - based polymers with polyurethanes modifiers*
12:45 – 13:00	**Summary and conference closure** ***prof. dr hab. inż. Andrzej Gontarz***
13:00 – 14:00	**Lunch**