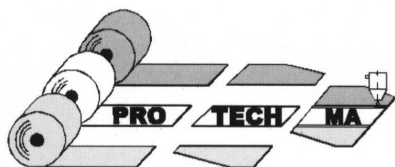




organizes international scientific conference

PRO-TECH-MA 2023



and Košice Summit of Innovation and
Technology "KSIT 2023"

6. 9. – 8. 9. 2023, ÚVZ Herľany

The conference is organized under the auspices of
Dr.h.c. prof. Ing. Jozef ŽIVČÁK, PhD., MPH,
Dean of the Faculty of Mechanical Engineering



**Department of Technology, Materials and
Computer Supported Production**
Faculty of Mechanical Engineering
Technical University of Košice



**Department of Materials Forming and
Processing**
Faculty of Mechanical Engineering and
Aeronautics
Rzeszow University of Technology



Department of Metal Forming
Faculty of Mechanical Engineering
Lublin University of Technology



Slovenská zvaračská spoločnosť
Slovak Welding Society

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TEMATIKA

- Progressívne materiály pre strojársku výrobu, ich vlastnosti, metódy hodnotenia technologickej spracovateľnosti
- Nové poznatky z teórie technologických procesov tvárnenia, zvárania, povrchových úprav, obrábania a spracovania plastov
- Moderné strojárské technológie
- Aditívne technológie
- Experimentálne, výpočtové a simulačné metódy postupov v strojárskych technológiách
- Nástroje a prípravky v strojárskej výrobe
- Navrhovanie výrobkov a výroby
- Ekologické aspekty strojárskych technológií
- Automobilová výroba
- Progressívne materiály a vývojové trendy v tvorbe nových povrchov a povlakov
- Povrchové inžinierstvo, triboprocesy, korózne procesy

TOPICS OF THE CONFERENCE

- Progressive materials for engineering production, their properties, evaluation methods of technological processing
- New observations from theory of technological processes of metal forming, welding, surface treatment, machining and plastic processing
- Progressive mechanical engineering technologies
- Additive technologies
- Experimental, computational and simulation methods in mechanical engineering technologies
- Tools and fixtures in engineering production
- Products and production designing
- Ecological aspects of mechanical engineering technologies
- Automotive production
- Advanced materials and trends in the formation of new surfaces and coatings
- Surface engineering, triboprocesses, corrosion processes

ODBORNÝ GARANT KONFERENCIE SCIENTIFIC GUARANTOR

EMIL SPIŠÁK

Technical University of Košice

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DÔLEŽITÉ TERMÍNY

- 30.6. 2023** Prihlásenie na konferenciu spolu s predbežným abstraktom
- 10.7. 2023** Potvrdenie prijatia príspevku na konferenciu
- 15.8. 2023** Úhrada konferenčných poplatkov
- 15.8. 2023** Zaslanie rozšíreného abstraktu podľa šablóny
- 30.9. 2023** Zaslanie príspevku e-mailom podľa pokynov

Abstrakty budú publikované v zborníku z konferencie.

Na základe abstraktov a tematického zamerania budú prijaté príspevky vedeckým výborom doporučené pre publikovanie v konkrétnom časopise. Po úspešnej recenzii budú príspevky publikované v časopisoch indexovaných v databáze WoS, resp. SCOPUS.

Viac informácií o konferencii nájdete na adrese:
<http://www.sjf.tuke.sk/protechma>

KONFERENČNÉ POPLATKY:

- 320,- EUR** účasť na konferencii a príspevok v anglickom jazyku
- 250,- EUR** príspevok v anglickom jazyku bez účasti na konferencii
- 180,- EUR** účastníci bez príspevku, doktorandi, firemné prezentácie

Konferenčný poplatok zahŕňa náklady na organizačné a technické zabezpečenie konferencie a náklady na vydanie zborníka.

IMPORTANT TERMS

- 30.6. 2023** Registration and submission of preliminary abstract
- 10.7. 2023** Paper acceptance
- 15.8. 2023** Payment of conference fee
- 15.8. 2023** Submission of final abstract written according to guidelines
- 30.9. 2023** E-mail submission of paper written according to guidelines

Abstracts will be published in the Conference Proceedings.

On the basis of the submitted abstracts and their topics the scientific committee will recommend them for publication in particular journals. Upon reviewers' recommendation the papers will be published in journals indexed in the WoS or SCOPUS database.

More information about the conference is available on
<http://www.sjf.tuke.sk/protechma>

REGISTRATION FEE:

- 320,- EUR** conference participation and paper in the English language
- 250,- EUR** paper in the English language without conference participation
- 180,- EUR** participants without papers, PhD students, commercial presentations

The conference fee covers organization costs, conference proceeding and refreshments.

MIESTO KONANIA KONFERENCIE

Konferencia sa uskutoční v Učebno-výcvikovom zariadení v Herľanoch. Ubytovanie si hradí účastník sám na mieste konania konferencie.

VENUE OF THE CONFERENCE

The conference take place in Educational and training establishment in Herľany. Accommodation is to be paid by participants at the check-in.



06th September, 2019

16:00 – 18:00 Registration

07th September, 2023

8:00 – 9:00 Registration

9:00	<p>Opening prof. Ing. Emil SPIŠÁK, CSc., TUKE, SK Head of Technology, Materials and Computer Supported Production, Scientific Guarantor of the Conference Speech of the Dean of the Faculty of Mechanical Engineering TUKE Dr.h.c. prof. Ing. Jozef ŽIVČÁK, PhD., MPH,</p>
Chairpersons	prof. Ing. Emil SPIŠÁK, CSc., SK prof. dr. hab. inž. Feliks STACHOWICZ, PL Dr.h.c. prof. Ing. Jozef ŽIVČÁK, PhD., MPH, SK
9:30-10:30	<p>GARBACZ, T. – DULEBOVÁ, Ľ. - GARBACZ, L. Analysis of strength properties of polymer-sand compositions produced by extrusion with compression molding.</p> <p>DZIUBINSKA, A. – SIEMIONEK, E. – SURDACKI, P. – WOJCIECH, P. – MAJERSKI, K. Study of flow curves of die-cast az31 magnesium alloy under hot forming conditions</p> <p>DZIUBINSKA, A. – SIEMIONEK, E. – KULISZ, M. – LONGWIC, J. Review of the types of magnesium wheels used in land vehicles</p> <p>BREZINOVÁ, J. – DŽUPON, M. - VIŇÁŠ, J. – BREZINA, J. Laser texturing of functional surfaces of injection mould</p>
10:30-11:00	Coffee Break
Chairpersons	prof. Tomasz GARBACZ, Sc.D., PL prof. Ing. Ján SLOTA, PhD., SK
11:00-12:00	<p>WÓJCIK, M. - SKRZAT, A. – SPIŠÁK, E. Crystal plasticity vs. classical macroscopic plasticity in solving elastic-plastic boundary value problems of materials forming and processing</p> <p>GUZANOVÁ, A. – DRAGANOVSKÁ, D. – VELIGOTSKYI, N. Hybrid joining made by flowdrilling and adhesive bonding</p> <p>KUBIT, A. - SLOTA, J. – KAŠČÁK, Ľ. - MAGDZIAK, M. - TOFIL, A. Analysis of forming stiffening ribs in litecor metal-plastic composite</p>

	<p>ŠUGÁR, P. – ŠUGÁROVÁ, J. – ANTALA, R. – BOČÁKOVÁ, B. – KOVÁČIK, J. Surface morphology, roughness and phase composition analysis of the laser-modified powder metallurgy-processed Ti-graphite composite</p>
12:00-13:00	Lunch Break
Chairpersons Section 1	prof. Ing. Peter ŠUGÁR, CSc., SK prof. Ing. Janette BREZINOVÁ, PhD., SK
14:00-15:00	<p>ŠUGÁROVÁ, J. – ŠUGÁR, P. Investigation of the multi-pass cold metal spinning using laser textured tool</p> <p>MITAĽ, G. – GAJDOŠ, I. - SPIŠÁK, E. FFF layer formation strategies and their influence on tribological properties</p> <p>WÓJCIK, J. – TOMCZAK, J. Numerical analysis of incremental forming of thin-walled components on a numerically controlled machine</p> <p>KUSIAK, T. - TOMCZAK, J. Analysis of the feasibility of manufacturing axisymmetric longitudinal bimetallic parts on a cnc skew rolling mill</p>
15:00-15:15	Coffee Break
15:15-16:00	<p>NOVÁKOVÁ - MARCINČINOVÁ, E. – SPIŠÁK, E. – NOVÁKOVÁ - MARCINČINOVÁ, Ľ. – MAJERNÍKOVÁ, J. – MULIDRÁN, P. Verification of the influence of the production method of a sample from PLA material using rapid prototyping technology on its properties</p> <p>MULIDRÁN, P. – SPIŠÁK, E. – TOMÁŠ, M. - MAJERNÍKOVÁ, J. - NOVÁKOVÁ - MARCINČINOVÁ, E. - KAŠČÁK, Ľ. The effect of counter pressure on the springback of U-shaped part</p> <p>SOBASZEK, L. – GAJDOŠ, I. – ŠTEFČÁK, P. The influence of the manufactured part position on the robotic 3D printing process efficiency</p>
Chairpersons Section 2	prof. Ing. Ján VIŇÁŠ, PhD. IWE., SK prof. dr. hab. inž. Feliks STACHOWICZ, PL
14:00-15:00	<p>GAJDOŠ, I. – ŠTEFČÁK, P. - SLOTA, J. - SOBASZEK, L. Influence of geometry and non-planar slicing on fused granular fabrication printing parameters</p>

	<p>STACHOWICZ, F. Influence of rolling speed on the temperature field during cold rolling of aluminum sheets</p> <p>SOVIK, J. – KNAP, V. – OBERTOVA, V. – PASTOREK, F. – FLORKOVA, Z. – HADZIMA, B. Assessment of the effect of surface roughness on electrochemical characteristics of AZ80 magnesium alloy treated by PEO</p> <p>SKRZAT, A. – WÓJCIK, M. Explicit and implicit integration of constitutive equations of chaboche material model</p>
15:00-15:15	Coffee Break
15:15-16:00	<p>KUT, S. – PASOWICZ, G. – STACHOWICZ, F. Experimental determination of springback characteristics in a air bending of the aluminium alloy sheet with aluminium cladding</p> <p>TOMÁŠ, M. – EVIN, M. – KULYA, J.M. – KOKARDA, V. – BUBER, M. Feasibility study of the a-pillar car-body part production by cae analysis</p> <p>BARAN, N. – GRYSSENKO, O. – DULEBOVA, L. – SPIŠÁK, E. – GAJDOŠ, I. Features of the formation of a strengthening coating on hydrogel membranes</p>
19:00	Gala Dinner

08th September, 2023	
Chairpersons	<p>prof. Ing. Emil SPIŠÁK, CSc., SK prof. dr. hab. inž. Feliks STACHOWICZ, PL</p>
9:00-10:00	<p>SZPUNAR, M. – OSTROWSKI, R. – TRZEPIECIŃSKI, T. Analysis of input parameters influence in single point incremental forming of conical drawpieces from cp-2 titanium sheets</p> <p>BODA, L. – MUCHA, J. – WITKOWSKI, W. Experimental analysis of the influence of the depth of rivet insertion in the process of clinch-rivet joining on joint strength</p> <p>TUTAK, J. – MUCHA, J. – WITKOWSKI, W. Analysis of shape and dimensional accuracy of the rehabilitation device main bracket for a patient with a paresis of upper limbs</p>

	<p>TUTAK, J. – MUCHA, J. – WITKOWSKI, W. Analysis of the functionality of the rehabilitation device for a patient with paresis of the upper limbs</p>
10:00-10:15	Coffee Break
10:15-11:45	<p>VARGA, J. – KENDER, Š. – SPIŠÁK, E. – KAŠČÁK, L. Application of the scanning method in the field of machining</p> <p>KAŠČÁK, L. – SPIŠÁK, E. – DŽUPON, M. – VARGA, J. – MULIDRÁN, P. The use of replicas in evaluating the wear of tools for mechanical joining by the clinching method</p> <p>IŽOL, P. – BRINDZA, J. – VRABEL, M. – VARGA, J. – DEMKO, M. Influence of interpolation parameters on the accuracy of milled surfaces</p> <p>KRASINSKYI, V. – DULEBOVA, L. – MALINOWSKI, R. – BAJER, K. – KRASINSKA, O. Development of new technology for the montmorillonite modification</p> <p>MAJERNÍKOVÁ, J. – VILKOVSKÝ, S. – SPIŠÁK, E. – HAJDUK, J. Verification of earing of trip steel using simufact forming simulation software</p> <p>MORAVSKYI, V. – KUCHERENKO, A. – KUZNETSOVA, M. – DULEBOVA, L. Use of highly crystalline polymers for creation of heat accumulation systems. X-ray structural research</p>
12:00-13:00	Lunch
13:00	Closing of the Conference