

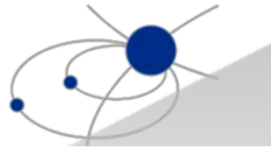


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WYDZIAŁ INŻYNIERII
MECHANICZNEJ
I OKRĘTOWNICTWA

Konstelacja Szkół Naukowych
w Inżynierii Mechanicznej 2024



Program konferencji

24.09.2024



Day 1 – Wednesday, 25th September 2024

- 12:00 – 13:00 Participant registration
13:00 – 14:00 Lunch
- 14:00 – 16:15 Conference opening and Plenary session – Marine Hall
14:00 – 14:15 Conference opening
14:15 – 14:30 120th Anniversary of Gdańsk University of Technology
14:30 – 15:00 Wojciech Kacalak, Katarzyna Tandecka, Monika Szada-Borzyszkowska:
Innovations in Mechanical Engineering Induced by Scientific Research,
Bionic Patterns, and Artificial Intelligence Applications
15:00 – 15:30 Piotr Cichosz: Machining of Composite Materials
15:30 – 16:00 Błażej Bałasz: Challenges in Precision Manufacturing Using L-PBF
Technology
16:00 – 16:15 Jerzy Józwick – Polish Metrology Union
- 16:15 – 16:45 Coffee Break**
- 16:45 – 17:45 Session 1 – Marine Hall
Chairpersons: Prof. Wojciech Kacalak, Prof. Piotr Cichosz
- 16:45 – 17:00 Dariusz Lipiński: Selected Aspects of Functional Surface Assessment of
Grinding Wheels
17:00 – 17:15 Agnieszka Skoczylas: The Impact of Working Fluid Type on Surface
Properties after Centrifugal Ball Peening
17:15 – 17:30 Stanisław Adamczak, Marek Gajur, Krzysztof Kuźmicki: Technological
Problems in Manufacturing Bearing Hubs
17:30 – 17:45 Anna Zawada-Tomkiewicz: Tool Wear Model for Intelligent Tool
Replacement
- 18:00 Gala Dinner**

Day 2 – Thursday, 26th September 2024

7:00 – 9:00 Breakfast

9:15 – 10:45 Session 2 – Marina Hall

Chairpersons: Prof. Adam Barylski, PhD, Dariusz Lipiński, PhD, PK

- 9:15 – 9:30 Bartłomiej Milewski, Piotr Jeleń, Robert Antosz, Jadwiga Laska: Study of Phenol-Formaldehyde Resin Crosslinking Process Using Diffuse Reflectance FTIR (DRIFT) Spectroscopy
- 9:30 – 9:45 Monika Szada-Borzyszkowska: Manufacturing Processes of Functional Textures Using Abrasive Water Jet
- 9:45 – 10:00 Łukasz Rypina: Modeling of Material Removal Processes by a Single Abrasive Grain Using FEM
- 10:00 – 10:15 Bartłomiej Grodecki: Geometric-Kinematic Analysis of Abrasive Grain Interaction with Machined Material
- 10:15 – 10:30 Witold Habrat: Analysis of Multilayer PVD Coatings Based on TiB₂/ZrN on Cutting Tools for Aluminum Alloy Machining
- 10:30 – 10:45 Dariusz Mika, Jerzy Józwik, Arkadiusz Tofil, Fabio Lecesce, Alessandro Ruggiero: Fast Gradient Algorithm of Independent Component Analysis (ICA) Method and Its Applications

9:15 – 10:45 Session 3 – Gdańsk Hall

Chairpersons: Prof. Kazimierz Orłowski, PhD, Grzegorz Robak, PhD, PO

- 9:15 – 9:30 Eugene Feldshtein, Kamil Leksycki: Insight into Chip Formation and Surface Topography during Finish Turning of Powder Steel Infiltrated with Bronze
- 9:30 – 9:45 Jakub Matuszak: Comparative Analysis of Surface Defect Removal Efficiency Using Tools with Elastic Cutting Edges
- 9:45 – 10:00 Magdalena Zawada-Michałowska, Paweł Pieško: Analysis of Machining Strategies in the Context of Post-Machining Deformations in Thin-Walled Elements
- 10:00 – 10:15 Paweł Pieško, Magdalena Zawada-Michałowska, Krystian Małecki: Comparison of Machining Effects on Thin-Walled Elements Using Tools with Different Geometries
- 10:15 – 10:30 Damian Bańkowski, Anna Kiljan, Irena M. Hlaváčová: Impact of Vibratory Strengthening Machining Factors on Properties of CuZn30 Brass
- 10:30 – 10:45 Krzysztof Ciecieląg: Effect of Cooling Methods on Machinability Indicators and Recursive Analysis During Polymer Composite Milling

10:45 – 11:15 Coffee Break

11:15 – 13:00 Session 4 – Marina Hall

Chairpersons: Witold Habrat, PhD, PRz, Robert Tomkowski, PhD

- 11:15 – 11:30 Kyoung-Yun Kim: Manufacturing Analytics and Smart Manufacturing
- 11:30 – 11:45 Genevieve Bakam: Digital Practices and Smart Factories for Sustainable Manufacturing Companies
- 11:45 – 12:00 Mieczysław Siemiątkowski: Planning Framework for Smart Cellular Manufacturing Systems Layouts to Incorporate Product Mix Variations
- 12:00 – 12:15 Stefan Dzionk, Bogdan Ścibiorski: Characteristics of the Surface Structure Obtained in a Low Plasticity Burnishing Process in Which the Jumping Wave Occurred
- 12:15 – 12:30 Dawid Zieliński, Sisay Workineh Agebo, Mariusz Deja: Effect of Process Parameters on Wear Characteristics and Lapping Performance of Additively Manufactured Tools
- 12:30 – 12:45 Zdzisław Kwizdiński, Tomasz Rogoziński: Real-Time Vision Measurement System Exemplified on Wood-Based Technical Door Frame Production
- 12:45 – 13:00 Daniel Chuchała, Yunbo Huang, Kazimierz Orłowski: Innovative Approach to Cutting Force Analysis for Wood Cutting Processes with Saws

11:15 – 13:00 Session 5 – Gdańsk Hall

Chairpersons: Błażej Bałasz, PhD, Anna Zawada-Tomkiewicz, PhD, PK

- 11:15 – 11:30 Angelos Markopoulos: A Methodology for SLM Modeling
11:30 – 11:45 Dorota Laskowska: Evaluation of Porous Structures Produced by Binder Jetting Technology for Biomedical Applications
11:45 – 12:00 Grzegorz Robak: Impact of Titanium Boride on the Strength of Components Manufactured from Ti64 Powder Using SLM Technology
12:00 – 12:15 Dariusz M. Perkowski, Johann Faust, Michael Müller-Pabel, Albert Langkamp, Maik Gude: Modeling the Impact of UV Curing Strategy on Optimization of Fiber-Reinforced Additive Manufacturing
12:15 – 12:30 Jarosław Kotliński: Database of Expert System for the Quality of Printed Machine Parts
12:30 – 12:45 Wojciech Zawadka: Analysis of Shrinkage and Density of Metal Samples Produced by Binder Jetting Using Hartley's Plan
12:45 – 13:00 Dawid Zieliński, Weronika Lubecka, Mariusz Deja: Application of UV-LCD Manufactured Micro Abrasive Tools in Precision Machining of 41Cr4 Alloy Steel
- 13:00 – 14:00 Lunch

14:00 – 14:30 Poster Session – Marina Hall

Chairpersons: Mariusz Deja, PhD, Marek Chodnicki, PhD

Ewelina Kosicka: Evaluation of Machine Tool Geometric Accuracy Using the Test Element Method
Maciej Jan Kupczyk: The Use of Composite Boron Nitride for Anti-Wear Coatings
Wojciech Stachurski, Tomasz Zadziński, Marcin Wawrzonkowski, Norbert Kępczak, Grzegorz Bechciński, Jakub Sikorski, Witold Pawłowski: Effect of Cutting Edge Shaping Technology from Polycrystalline Diamond on Cutting Forces During Face Milling
Daria Sałamacha, Jerzy Józwiak, Paweł Pieško: Identification of Kinematic Center Position of a 5-Axis Machine Tool Using the R-Test System
Błażej Witkowski, Wojciech Stachurski, Witold Pawłowski, Małgorzata Sikora, Stanisław Midera: Mathematical Model of Grinding Forces in Helical Cutter Sharpening Process
Marta Beata Krawczyk, Marcin A. Królikowski: *Effect of FFF Manufacturing Strategy on Polyamide Properties
Mateusz Hoffmann, Jędrzej Bożek: Presentation of B. Braun Polska, Aesculap Chifa Sp. z o.o.

14:30 – 17:20 Industry Session and Entrepreneurs Council WIMiO PG – Marina Hall

Chairpersons: Mariusz Deja, PhD, Marek Chodnicki, PhD

- 14:30 – 15:00. Michał Doroszko, Andrzej Seweryn: Numerical Modeling of Mechanical Properties of Additively Manufactured Metal Meso-Structures Using Tomographic Imaging
15:00 – 15:15. Adam Zalewski, Sergiusz Sobieski: Integration and Automation of Technological Knowledge in CNC Machining with CAM Systems
15:15 – 15:30 Dariusz Jach: Development and Implementation of Technology for High-Precision Cast Iron Castings for the Automotive Sector Using Industry 4.0 Methodology
15:30 – 15:45 Mariusz Władowski: Modern Solutions in Microscopy for Science and Industry Applications
- 15:45 – 16:00 Coffee Break
- 16:00 – 17:00 Presentations from Entrepreneurs Council Companies
- 17:00 – 17:10 Invitation to the NEPTUN Excellence Cluster "New Approach to Innovative Technologies in Manufacturing"
- 17:10 – 17:20 Marek Galewski: Cooperation Between Industry and Academia in Teaching and Research

17:30 – 18:00 Scientific Committee Meeting – Gdańsk Hall**18:00 Networking Dinner**

Day 3 – Friday, 27th September 2024

7:00 – 9:00 Breakfast

9:00 – 10:45 Session 6 – Marina Hall

Chairpersons: Dariusz Perkowski, PhD, Mieczysław Siemiątkowski, PhD

9:00 – 9:15. Maciej Gniot, Adam Barylski: Impact of Flat Element Placement on Processing Kinematics and Predicted Wear of Lapping Plate

9:15 – 9:30 Stefan Dzionk, Bogdan Ścibiorski: Reverse Flow Characteristic during Low Plasticity Burnishing Process

9:30 – 9:45 Dariusz Jach: Development and Implementation of Integrated Machining Technology for Thin-Walled Cast Iron Castings with Complex Shapes and Advanced Surface Area, Supported by Advanced Quality Control Techniques

9:45 – 10:00 Marianna Jędrych, Damian Gorzkiewicz, Mariusz Deja, Marek Chodnicki: Application of 3D Scanning and Computer Simulation Techniques to Assess the Shape Accuracy of Welded Components

10:00 – 10:15 Dominika Zakrzewska, Marta Buszko: Impact of Impact Velocity on Erosive Destruction of Stainless Steel Surface Layer

10:15 – 10:30 Karolina Chodnicka-Wszelak, Mariusz Deja: Impact of Grinding Depth on Microstructure and Properties of C45 Steel Surface Layer

10:30 – 10:45 Paweł Szalewski, Mariusz Deja: Application of A-priori Algorithm to Assess Yacht Hull Lamination Process

10:45 – 11:00 Coffee Break

11:00 – 11:30 Conference Closing – Marina Hall

12:00 – 14:00 Lunch