

Day 1, Monday, May 16, 2022

Time	Event	Room / Info
11:00 – 15:00	Registration / Conference Office opening hours	Hall
12:00 – 14:00	Opening Ceremony Master of Ceremony: Magdalena DIERING, Chair Conference Opening & Best Paper Awards Ceremony: Olaf CISZAK, FME Dean Teofil JESIONOWSKI, PUT Rector Adam HAMROL, General Chair Keynote Speakers Ralf WOLL, CTB, Cottbus, Germany Adam GAŚKA, Jerzy SŁADEK, Cracow University of Technology, Poland	On-site: Room CW7 Remotely: BBB platform
14:00 – 15:00	Lunch	053
15:00 – 16:00	Keynote Speakers Piotr HOFFMANN, Barlinek Inwestycje, Barlinek, Poland Adam HAMROL, Poznan University of Technology, Poland	On-site: Room CW7 Remotely: BBB platform
18:00 – 20:00	Ice Breaker Party – Bowling & Billiards and Pizza 🍕 Meeting Point: Gravitacja Posnania	Gravitacja Posnania

Day 2, Tuesday, May 17, 2022

Time	Event	Room / Info
09:00 – 13:00	Conference Office opening hours	Hall
09:00 – 09:30	Morning Coffee and Snacks	053

Day 2, Tuesday, May 17, 2022

09:30 – 11:00	<p>Session 1: <i>Manufacturing and management approaches and tools for companies in era of digitalization</i> Session Chair: Justyna TROJANOWSKA</p> <ol style="list-style-type: none"> Oleg KROL, Volodymyr SOKOLOV, Aleksander GOLUBENKO, <i>Multicriteria Optimization of the Worm Gearing Drive for Tool Magazine</i> Oleg KROL, Volodymyr SOKOLOV, <i>Modification of the Spindle Head for a Milling Machine with Increased Load Capacity Drive</i> Alessandro ALESSIO, Khurshid ALIEV and Dario ANTONELLI, <i>Robust Adversarial Reinforcement Learning for Optimal Assembly Sequence Definition in a Cobot workcell</i> Alla POLYANSKA, Svitlana SAVCHUK, Ivanna ZAPUKHLYAK, Yaroslav ZAIACHUK and Irina STANKOVSKA, <i>Digital maturity of the enterprise as an assessment of its ability to function in Industry 5.0</i> Jan DUDA, Sylwester OLESZEK and Krzysztof SANTAREK, <i>Product Lifecycle Management (PLM) in the context of Industry 4.0</i> Reggie DAVIDRAJUH, Damian KRENCZYK and Bozena SKOLUD, <i>Modeling Production Systems as Modular Systems: A Petri Nets based Approach</i> 	On-site: Room CW7 Remotely: BBB platform
11:00 – 11:30	Coffee Break	053
11:30 – 13:00	<p>Session 2: <i>Cyber-Physical Production Systems: From Design to Applications</i> Session Chair: Bartosz GAPIŃSKI</p> <ol style="list-style-type: none"> Jacek FRAŃCZAK and Justyna PATALAS-MALISZEWSKA, <i>Design of Customized Sea Container House in the context of Industry 4.0 - a case study</i> Josilene LIMA, Vaibhav SHAH, Leonilde VARELA, Goran PUTNIK, Katarzyna ANTOSZ, José MACHADO, <i>Analysing impact of the digitalization of cosmetic visual inspection process in smartphone manufacturing by using computer vision</i> Filipe PEREIRA, Luis FREITAS, Rui OLIVEIRA, José VICENTE, Teresa MALHEIRO, A. Manuela GONÇALVES, José MACHADO, <i>Design of a vision system for needles' beds positioning inspection: an industrial application</i> Florin POPIȘTER, Alexandru OARCEA, Sergiu-Dan STAN, Costan-Vlăduț TRIFAN, <i>Workspace analysis of a novel parallel kinematic machine with 6 Degrees of Freedom</i> 	On-site: Room CW7 Remotely: BBB platform
13:00 – 14:00	Lunch	053

Day 2, Tuesday, May 17, 2022

14:00 – 15:30	<p>Session 3: <i>Operational innovation and excellence in organizations of 21st Century. Lean Thinking, Kaizen Philosophy, and Toyota Production System</i> Session Chair: Marta GRABOWSKA</p>	<p>On-site: Room CW7 Remotely: BBB platform</p>
<ol style="list-style-type: none"> 1. Fernando BANDA, Martín LUNA LÁZARO, Leticia NEIRA-TOVAR, Ana Karen LUNA TORRES, Said GONZALEZ, <i>Augmented Reality as a didactic resource: a proposal for computer equipment maintenance training</i> 2. Márcia Helena BORGES NOTARJACOMO, Bruna STRAPAZZON DO COUTO, Fernanda BICA DE ALMEIDA, Miriam BORCHART, GIANCARLO MEDEIROS PEREIRA, <i>Total Quality Management: practices to leverage its principles in distance higher education</i> 3. Manuel F. SUÁREZ-BARRAZA, Jose Angel MIGUEL-DAVILA, Manuel Francisco MORALES-CONTRERAS, <i>KAIZEN: An ancestral strategy for operational improvement: Literature Review and Trends</i> 4. Fernando GONZALEZ ALEU, Daniela GARZA GUTIERREZ, Edgar Marco AURELIO , Granda GUTIERREZ, Jesus VAZQUEZ HERNANDEZ, <i>Increasing Forklift Time Utilization in a Food Equipment Manufacturing Plant with a Kaizen Event</i> 5. Damjan MALETIČ, Matjaž MALETIČ, <i>Barriers to Digital Transformation in Asset Management</i> 6. Jakub DEMČÁK, Natalia LISHCHENKO, Ivan PAVLENKO, Ján PITEĽ and Kamil ŽIDEK, <i>The Experimental SMART Manufacturing System in SmartTechLab</i> 		
15:30 – 16:00	Coffee Break	053
16:00 – 17:30	<p>Session 4: <i>Augmented, Virtual and Mixed Reality Systems</i> Session Chair: Jozef HUSAR</p>	<p>On-site: Room CW7 Remotely: BBB platform</p>
<ol style="list-style-type: none"> 1. Fernando BANDA, Francisco Javier ESPARZA, Jesús MELENDEZ and Melany ASCACIO, <i>Augmented Reality - a tool to support learning in engineering schools. Automation practice case</i> 2. Leticia NEIRA-TOVAR, Estefania SALISBURY FLORES, Sergio ORDOÑEZ, Aldo MARTINEZ, and Eduardo SANCHEZ-RENTERÍA, <i>A Development Method of a Virtual Reality Environment for Teaching in a Medical Technician School</i> 3. Paweł BUŃ, Jakub GAPSA, Jozef HUSÁR and Jakub KAŠČAK, <i>Mixed reality training in electrical equipment operating procedures</i> 4. Paweł BUŃ, Jozef HUSÁR and Jakub KAŠČAK, <i>Hand tracking in Extended Reality educational applications</i> 5. Kateryna KOVBASIUK, Michal BALOG and Kamil ŽIDEK, <i>Designing an Automated Assembly Workplace in a Simulation Environment</i> 6. Leticia NEIRA-TOVAR, Edson E. CASTAÑEDA-MANCILLAS, Guillermo ROSSANO, Jorge CUPICH, and Hector CRUZ, <i>Implementation of Virtual Reality for Training in Education and Industry: A Forklift Case</i> 		
18:30 – 23:00	Gala Dinner	053

Day 3, Wednesday, May 18, 2022

Time	Event	Room / Info
09:30 – 13:00	Conference Office opening hours	Hall
09:30 – 11:30	Poster Session* with Breakfast and Morning Coffee Session Chair: Michał JAKUBOWICZ	On-site: Room 053 Remotely: BBB platform
* POSTER LIST is attached under the conference program		
11:30 – 13:00	Session 5: <i>Intelligent Methods Supporting Manufacturing Systems Efficiency</i> Session Chair: Anna BURDUK <ol style="list-style-type: none"> 1. BUSHRA M.Z., Ahmad MAJDI A. RANI, Nu'man Al-Basyir Mohd Nuri Al-Amin, Mohd Norhisyam AWANG, M Nasir A RANI, Nur Athirah ISHAR, Harvey M. THOMPSON, Marek SZOSTAK, Krishnan SUBRMANIAM, <i>Analysis and Modelling of Intelligent Gate Valve with Fault Detection and Prevention System for Fabrication using 3D Printing Method</i> 2. Suthep BUTDEE, <i>A Prediction Approach for Aluminum Extrusion Processing using Neuro-Fuzzy Based Decision Making</i> 3. Marcin HINZ, Jannis PIETRUSCHKA, Stefan BRACKE, <i>Application of Random Forest Algorithm for the Quality Determination of manufactured Surfaces</i> 4. Grzegorz BOCEWICZ, Izabela NIELSEN, Robert WÓJCIK and Zbigniew BANASZAK, <i>Declarative models of periodic distribution processes</i> 5. Eva Michelle SEDLÁČKOVÁ, Jiří KUCHAR, Viktor KREIBICH, Jakub HORNÍK, <i>A comparative experimental study of acids used for anodic oxidation for the purposes of aerospace industry</i> 6. Jakub KRAJANOWSKI-KALETA, Przemysław ZAWADZKI, Krzysztof ŻYWICKI, Maciej SZYMAŃSKI, Adrian MRÓZ, <i>Comparison of the tools for design process automation in popular CAx systems</i> 	On-site: Room CW7 Remotely: BBB platform
13:00 – 14:00	Lunch	053

Day 3, Wednesday, May 18, 2022

14:00 – 15:30	<p>Session 6: <i>Sustainability on Production in the aspect of Industry 4.0</i> Session Chair: Izabela ROJEK</p> <ol style="list-style-type: none"> 1. Justyna PATALAS-MALISZEWSKA, Sławomir KŁOS and Ewa DOSTATNI, <i>Integrating the Assessment of Sustainability and an ERP System in Small and Medium Manufacturing Enterprise - a case study</i> 2. Anna KARWASZ, Filip OSIŃSKI, <i>Analysis of emission solid particles from the 3D printing process</i> 3. Wiesław URBAN, Elżbieta KRAWCZYK-DEMBICKA and Krzysztof ŁUKASZEWICZ, <i>Product co-design supported by Industry 4.0 in customized manufacturing</i> 4. Wiesław URBAN, Krzysztof ŁUKASZEWICZ and Elżbieta KRAWCZYK-DEMBICKA, <i>Development process of customised products, supported by technologies, a case of tailor-made furniture</i> 5. Andrea BONCI, Dorota STADNICKA and Sauro LONGHI, <i>The overall labour effectiveness to improve competitiveness and productivity in human-centered manufacturing</i> 6. Kristina BERLADIR, Justyna TROJANOWSKA, Vitalii IVANOV, Ivan PAVLENKO, <i>Materials Selection in Product Development: Challenges and Quality Management Tools</i> 	<p>On-site: Room CW7 Remotely: BBB platform</p>
15:30 – 16:00	Coffee Break	053

Day 3, Wednesday, May 18, 2022

16:00 – 17:30	<p>Session 7: <i>Design and rapid manufacturing of customized medical products</i> Session Chair: Filip GÓRSKI</p> <ol style="list-style-type: none"> Nikola VITKOVIĆ, Miroslav TRAJANOVIĆ, Jovan ARANĐELOVIĆ, Razvan PACURAR and Cristina BORZAN, <i>The Extra-articular Distal Humerus Plate Contact Surface Model Parameterization</i> Natalia RÓŻAŃSKA and Michal RYCHLIK, <i>FEM analysis of a scoliosis brace concept with 3D perforation for manufacturing using 3D printing technology</i> Agata MROZEK, Ewa TOMASZEWSKA and Michał RYCHLIK, <i>Concept of individual orthosis with 3D pattern structure for upper limb using 3D printing technology</i> Filip GÓRSKI, Radosław WICHNIAREK, Wiesław KUCZKO, Magdalena ŻUKOWSKA, Justyna RYBARCZYK and Monika LULKIEWICZ, <i>Evaluation of a prototype system of automated design and rapid manufacturing of orthopaedic supplies</i> Magdalena ŻUKOWSKA, Renata JEZIŃSKA, Filip GÓRSKI, Wiesław KUCZKO, Radosław WICHNIAREK, Jacek BANASZEWSKI and Agata BUCZKOWSKA-ANDRUSZKO, <i>Methodology of the rapid manufacturing of an individualized anatomical model of the tongue with a tumor for the preparation of an organ reconstruction operation</i> Filip GÓRSKI, Justyna RYBARCZYK, Przemysław ZAWADZKI, Wiesław KUCZKO, Natalia WIERZBICKA, Magdalena ŻUKOWSKA and Sabina SIWIEC, <i>Design and additive manufacturing of an individualized specialized leg orthosis</i> 	<p>On-site: Room CW7 Remotely: BBB platform</p>
18:00 – 21:00	<p>Evening Reception – Burgers and Snacks ☺☺ Meeting Point: 3 Kolory Malta restaurant</p>	3 Kolory Malta

Day 4, Thursday, May 19, 2022

Time	Event	Room / Info
09:00 – 13:00	Conference Office opening hours	Hall
09:00 – 09:30	Morning Coffee and Snacks	053

Day 4, Thursday, May 19, 2022

09:30 – 11:00	<p>Session 8: <i>Metrology and Statistical Analysis of Measurement and Control Systems</i> Session Chair: Alejandro PEREIRA</p> <ol style="list-style-type: none"> 1. Zuzanna KONIECZNA, Frans MEIJER, Ewa STACHOWSKA, <i>Non-destructive Testing of Metal-Polymer Laminates by Digital Shearography</i> 2. Rogelio J. BAUTISTA-GARCÍA, Rosa Ma. SALINAS-HERNÁNDEZ, FIDEL ULÍN-MONTEJO and Manuel F. SUÁREZ-BARRAZA, <i>Quality Estimation on the Application Process of the Vaccination Scheme against COVID in Mexico</i> 3. Dominik BRÜGGEMANN, Jens KNEIFEL, Stefan BRACKE, <i>Fundamental analysis of a circular metal sawing process</i> 4. Łukasz MARCHEWKA and Marek GRUDZIŃSKI, <i>Calibration of the 3D scanner in the machine tool workspace</i> 5. Ryszard ZIĘTEK, Paweł HERBIN and Mirosław PAJOR, <i>Development of an algorithm for estimating skeletal muscle strength</i> 	<p>On-site: Room CW7 Remotely: BBB platform</p>
11:00 – 11:30	Coffee Break	053
11:30 – 13:00	<p>Session 9: <i>Analytical and Computational Methods in (Bio-) Mechanical and Material Engineering</i> Session Chair: Tomasz STRĘK</p> <ol style="list-style-type: none"> 1. Marcin GRABOWSKI, Sebastian SKOCZYPIEC, Dominik WYSZYNSKI, <i>Effect of combined mechanical and electrochemical action on surface roughness in microturning process</i> 2. Nejc NOVAK, Oraib AL-KETAN, Matej VESENJAK and Zoran REN, <i>Testing, modelling and applications of TPMS cellular structures in biomechanical engineering</i> 3. Jakub MICHALSKI, Tomasz STRĘK, <i>Response of a Sandwich Plate with Auxetic Anti-tetrachiral Core to Puncture</i> 4. Šárka HOUDOVÁ, Zdeněk ČESÁNEK, Pavel POLACH, <i>Performance of Selected Thermally Sprayed Coatings for Power Applications</i> 5. Diana BĂILĂ, Răzvan PĂCURAR and Ancuța PĂCURAR, <i>Thin-film protective coatings on samples manufactured by Direct Metal Laser Sintering technology used in dentistry</i> 6. Maria BALANOU, Panagiotis KARMIRIS-OBATAŃSKI, Nikolaos E. KARKALOS, Emmanouil L. PAPAZOGLU, Angelos P. MARKOPOULO, <i>On the machining of Aluminum Alloy Series 7 with EDM</i> 	<p>On-site: Room CW7 Remotely: BBB platform</p>
13:00 – 14:00	Lunch	053
13:00 – 14:00	<p>Closing Remarks Master of Ceremony: Magdalena DIERING, Chair Best Poster & Best Presentation Awards Ceremony: Olaf CISZAK, FME Dean Announcement >>> MANUFACTURING 2024: Adam HAMROL, General Chair</p>	053

POSTER LIST*

Time	Event	Room / Info
Day 3, Wednesday, May 18, 2022 09:30 – 11:30	* Poster Session with Breakfast and Morning Coffee Session Chair: Michał JAKUBOWICZ	On-site: Room 053 Remotely: BBB platform

** BR – Breakout Room number on a [BBB web platform](#)

No	BR **	Authors	Poster Title
P.01	Breakout Room 1	Joanna KRAJEWSKA-ŚPIEWAK, Józef GAWLIK, Marcin GRABOWSKI Piotr TYCZYŃSKI, Małgorzata KOWALCZYK	<i>Impact of the type of tool holder on the surface finish during precision machining of WCLV hardened steel with carbide milling cutters</i>
P.02		Mirosław RUCKI, YAROSLAV GARASHCHENKO, Ilja KOGAN, Tomasz RYBA	<i>Evaluation of the Fidelity of Additively Manufactured 3D Models of a Fossil Skull</i>
P.03		Edwin GEVORKYAN, Mirosław RUCKI, Volodymyr NERUBATSKYI, Zbigniew SIEMIATKOWSKI, Dmitrij MOROZOW, Hanna KOMAROVA	<i>Theoretical Model of the Densification during Hot Pressing and its Verification</i>
P.04		Dominika RYSINSKA-WOJTASIK Artem BALASHOV	<i>Risk analysis as a way to improve the efficiency of production processes – case study</i>
P.05		Klaudia TOMASZEWSKA	<i>Production flow between workstations using the Kanban & DBR methods – comparative study</i>
P.06		Agata KULIBERDA and Tomasz STREK	<i>Mechanical properties of novel device for treatment of neuropathy</i>
P.07	Breakout Room 2	Ondrej MIZERA, Jiri HAJNYS, LENKA CEPOVA, Jan ZELINKA, Jakub MESICEK	<i>Laser measurement by angle accuracy method in additive technology SLM 316L</i>
P.08		Bartłomiej KRAWCZYK, Krzysztof SMAK, Piotr SZABLEWSKI, Bartosz GAPIŃSKI	<i>Review of measurement methods to evaluate the geometry of different types of external threads</i>
P.09		Diogo COSTA, Vaibhav SHAH, Leonilde VARELA, Caetano MONTEIRO, Goran PUTNIK, José MACHADO	<i>Evaluating the Statistical Process Control Data Acquisition System in a Heat Exchanger Factory</i>
P.10		Norbert KAWĘCKI and Arkadiusz GOLA	<i>Pick Performance System as an IT Support for Order Completing – a Case Study</i>
P.11		Jan KUDLÁČEK, Jakub SVOBODA, Michał ZOUBEK, Henryk KANIA, Mariola SATERNUS	<i>Technology of repairs of anticorrosion protection of smaller parts of historic steel structures using hot-dip galvanizing</i>
P.12		Anna DUDKOWIAK, Ewa DOSTATNI, Izabela ROJEK and Dariusz MIKOŁAJEWSKI	<i>The environmental analysis of a product manufactured with the use of an additive technology</i>

No	BR **	Authors	Poster Title
P.13	Breakout Room 3	Mariusz SALWIN, Andrzej KRASLAWSKI, Michał ANDRZEJEWSKI and Jan LIPIAK	<i>Product-Service System for the pharmaceutical industry - a new opportunity for machine manufacturers</i>
P.14		Paulina REWERS and Przemysław PALUSZYŃSKI	<i>Analysis and improvement of the foreman's work methods</i>
P.15		Maciej KOWALSKI, Przemysław ZAWADZKI	<i>Advantages of automatic CAM programming in industrial practice – a case study</i>
P.16		Marek RYBICKI	<i>New methodology of face mill path correction based on machined surface measurement to improve flatness</i>
P.17		Zuzana TATÍČKOVÁ, Michal ZOUBEK, Jan KUDLÁČEK, Jiří KUCHAR, Viktor KREIBICH	<i>Smart interactive paints - the effect of dispergation on color characteristics</i>
P.18		Adam GÓRNY	<i>The use of quality tools to improve the risk management cycle in the work environment shaping</i>
P.19	Breakout Room 4	Edson E. CASTAÑEDA-MANCILLAS , Eduardo SANCHEZ-RENTERÍA, Francisco TORRES-GUERREO and Paweł BUŃ	<i>A Design Proposal: Virtual Reality Environment for a safety Training in Electrical Substations</i>
P.20		Marcin RADZKI and Jacek DIAKUN	<i>Comparative analysis of the environmental assessment of an exemplary product in selected IT tools</i>
P.21		Bartosz KORZENIEWSKI, Natalia ŁOŻYKOWSKA, Karol BULA	<i>Surface structurization of metallic inserts for enhancement of polymer-metal joints</i>
P.22		Dariusz PLINTA, Aleksandra GREŃ	<i>Application of the PFMEA for risk assessment in the production process</i>
P.23		Diana BĂILĂ, Răzvan PĂCURAR and Ancuța PĂCURAR	<i>Sintered compacts of Co-Cr powders doped with HAp and ZrO2 used in implantology</i>
P.24		Jakub PIZOŃ, Arkadiusz GOLA, Antoni ŚWIĆ	<i>The Role and Meaning of the Digital Twin Technology in the Process of Implementing Intelligent Collaborative Robots</i>
P.25	Breakout Room 5	Łukasz PAŚKO, Katarzyna ANTOSZ	<i>Neural model of manufacturing process as a way to improve predictability of manufacturing</i>
P.26		Jakub KAŠČAK, Jozef HUSÁR, Lucia KNAPČÍKOVÁ, Justyna TROJANOWSKA and Vitalii IVANOV	<i>Conceptual Use of Augmented Reality in the Maintenance of Manufacturing Facilities</i>
P.27		Katarzyna ANTOSZ, Arkadiusz GOLA, Łukasz PAŚKO, Teresa MALHEIRO, Arminda MANUELA GONÇALVES, Leonilde VARELA	<i>Six Sigma and Random Forests Application for Product Quality System Control Development</i>
P.28		Wieczorowski MICHAŁ, Yago I.P., Alejandro PEREIRA DOMÍNGUEZ, Gapiński BARTOSZ, Budzik GRZEGORZ, Magdalena DIERING	<i>Comparison of measurements realized on computed tomograph and optical scanners for elements manufactured by Wire Arc Additive Manufacturing</i>
P.29		Gapiński BARTOSZ, Wieczorowski MICHAŁ, Mietliński PATRYK, MATHIA G. Thomas	<i>Verification of Computed Tomograph for Dimensional Measurements</i>

No	BR **	Authors	Poster Title
P.30	Breakout Room 6	Mateusz WIECHA, Mariusz R. RZAŚA, Karolina ADAMCZYK	<i>Computer control systems used in precision agriculture</i>
P.31		Kamil MUSIAŁ, Artem BALASHOV, Anna BURDUK, Andre BATAKO and ANDRII SAFONYK	<i>Solving scheduling problems in case of multi-objective production using heuristic optimization</i>
P.32		Adam HAMROL, Marta PAWELCZAK, Filip OSIŃSKI	<i>Household Appliance Lifecycle And Sustainable Development</i>
P.33		Adam HAMROL, Maciej CUGIER, Filip OSIŃSKI	<i>Identification of the sensitivity of FDM technology to material moisture with a fast test</i>
P.34		Jarosław SELECH, Robert SIKA, Mariola BIEDRZYCKA, Paweł POPIELARSKI, Jakub HAJKOWSKI, Andrii ZDOBYTSKYI, Mykhaylo LOBUR	<i>The Triple Helix concept in the aspect of counteracting barriers in science, industry and the public sector</i>
P.35		Tomasz MAZUR, Mirosław RUCKI, Michał JAKUBOWICZ, Lenka CEPOVA	<i>Analysis of the Direction-Dependent Point Identification Accuracy in CMM Measurement</i>
P.36	Breakout Room 7	Jacek ANDRZEJEWSKI and Marcin WĄTROBIŃSKI	<i>Personalization of the technological cycle for the production of bioresorbable implants</i>
P.37		Marin LAURENTIU	<i>Superficial analysis of a graphite film deposited by means of the process of pulsed electric discharges in underexcitation mode by means of SEM Microscopy using pyrolytic graphite cathode</i>
P.38		Agnieszka KUJAWIŃSKA, Adam HAMROL, Krzysztof BRZOZOWSKI	<i>Waste minimization in the battery assembly process - case study</i>
P.39		Agnieszka KUJAWIŃSKA, MICHAŁ ROGALEWICZ and Joanna POHL,	<i>Quality assessment of the cross-linking process of vascular prostheses</i>
P.40		Mariusz BRYKE, Beata STARZYŃSKA	<i>Relationships in the Human Lean Green areas for the benefit of sustainable production</i>
P.41		Marta GRABOWSKA, Krzysztof ŻYWICKI, Mateusz BIEGAŁA	<i>Employees motivation according to Ameba principles in production company</i>
P.42	Breakout Room 8	Alicja PIETRZAK, Piotr BUDZISZ and Tomasz STREK	<i>Design and analysis of mechanical properties of individualized limb prostheses for animals</i>
P.43		Agata MROZEK and Tomasz STRĘK	<i>Finite element analysis of the dynamic response of the auxetic structure</i>
P.44		Elżbieta MALEC and Magdalena NIEMCZEWSKA-WÓJCIK	<i>In search of efficiency improvement - a simulation model of a production company</i>
P.45		Anna BORATYŃSKA-SALA, Monika WOŹNIAK and Magdalena NIEMCZEWSKA-WÓJCIK	<i>Skills that generate innovation among IT project managers</i>
P.46		Paweł BRZEK and Arkadiusz KROMA	<i>Influence of surface roughness on stress concentration during tensile of MABS polymer</i>

No	BR **	Authors	Poster Title
P.47	Breakout Room 9	Tomasz GÓRNY and Aleksandra PAWLAK	<i>Imperfections in steel members with open cross-sections – literature review; years 2011-2021</i>
P.48		Anh H.G. NGUYEN and Gwo-Ji SHEEN	<i>Saving-based Genetic Algorithm for Parallel Batch Processing Problem with Incompatible Family and Time Window Constraints</i>
P.49		Łukasz DOPIERAŁA	<i>Composite reinforcement in a light stainless steel bus structure</i>
P.50		Damian DZIADOWIEC, JACEK ANDRZEJEWSKI and Marek SZOSTAK	<i>The processing of polypropylene-based films modified with biocarbon type of fillers/colorants</i>
P.51		Piotr SZYMCZAK, Jacek ANDRZEJEWSKI and Marek SZOSTAK	<i>The use of different types of chain extenders during reprocessing of PET bottle wastes</i>
P.52	Breakout Room 10	Dawid SZATKOWSKI, Dominik RYBARCZYK	<i>Development of two-wheeled self-stabilizing mobile platform</i>
P.53		Jędrzej URBAŃSKI, Mateusz STACHOWIAK, Dominik RYBARCZYK	<i>Development of the Globelike mobile robot with the manipulator set</i>
P.54		Robert KUPIEC, Wiktor HARMATYS, Izabela SANETRA, Katarzyna SKŁADANOWSKA, Ksenia OSTROWSKA	<i>Development of the handheld measuring probe for a 3d scanner</i>
P.55		Jakub GRABIEC, Paweł DUNAJ and Mirosław PAJOR	<i>Experimental modal analysis of the delta-type robot frame</i>
P.56		Michał ZARZECZNY and Mirosław PAJOR	<i>Concept of the system of automatic compensation of the tool position in the process of shaping the sphere in the lenses</i>