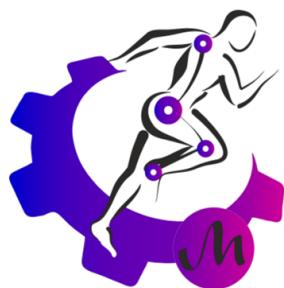


PROGRAMME – version 3



19. Scientific Conference
Medical and Sport Technologies
&
Young Biomechanists Conference
named of prof. Dagmara Tejszerska

Wisła, 19-21.05.2023



The conferences are co-financed from the state budget
under the program of the Minister of Education and Science

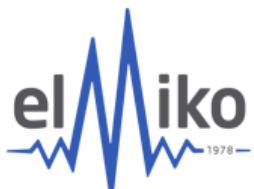
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09:00	REGISTRATION of WORKSHOPS' PARTICIPANTS
09:00-14:00 <i>room</i> BIZNESOWA C	WORKSHOPS "Multimodal neuroimaging application: simultaneous recording of EEG, fNIRS and Eyetracking"
09:30-11:30 <i>room</i> BIZNESOWA A	WORKSHOPS „Symulacje numeryczne w nauce i przemyśle” gr. 1
12:00-14:00 <i>room</i> BIZNESOWA A	WORKSHOPS „Symulacje numeryczne w nauce i przemyśle” gr. 2
from 12:00	REGISTRATION
13:00-15:00	LUNCH
15:00-16:15 <i>room WENECKA</i>	<p align="center">OPENING CEREMONY</p> <p align="center">WELCOME SPEECH</p> <p align="center">DISCUSSION PANEL</p> <p align="center">“Organization and management in the healthcare system in Silesia”</p> <p>Moderator: Paulina Gumowska – Editor-in-Chief of the magazine and portal 'Rynek Zdrowia'</p> <p>SPECIAL GUESTS:</p> <p align="center">Anna Jedynak – Vice-Marshal of the Silesian Voivodeship</p> <p align="center">Prof. Damian Czyżewski - Medical University of Silesia</p> <p align="center">Prof. Jarosław Fedorowski - Polish Federation of Hospitals</p> <p align="center">Marcin Bruszewski – American Heart of Poland</p> <p align="center">Prof. Joanna Żukowska – Collegium of Business Administration</p> <p align="center">Prof. Marek Gzik – Silesian University of Technology, European HealthTech Innovation Center</p>
16:15-16:45	COFFEE BREAK
16:30-18:00 <i>room</i> BIZNESOWA C	<p align="center">Meeting of HealthTech Innovations Society (TITDZ) Members</p> <p align="center">1st meeting date: 16:30</p> <p align="center">2nd meeting date: 16:45</p>
18:00-19:15 <i>room WENECKA</i>  Koleje Śląskie	<p align="center">SPECIAL SESSION</p> <p align="center">“Medical, technological, and logistical-tactical challenges of the contemporary battlefield”</p> <p>Chairpersons: prof. Jerzy Małachowski, prof. Krzysztof Jamroziak</p> <p align="center">KEYNOTES:</p> <p align="center">Gen. prof. Grzegorz Gielerak</p> <p align="center">“Determinants of the operability of medical support for a modern military operation”</p> <p align="center">Col. prof. Przemysław Kupidura</p> <p align="center">“Technological superiority on the modern battlefield”</p> <p align="center">Col. prof. Artur Michalak</p> <p align="center">„Experiences of the Russian-Ukrainian war in the context of logistic support in combat. New challenges”</p>
19:30	GALA DINNER (<i>room "Kongresowa"</i>)

7:30-9:00 09:00 <i>room WENECKA</i>	SATURDAY, May, 20st 2023 BREAKFAST OPENING CEREMONY „Young Biomechanists Conference” KEYNOTE LECTURE <i>“Czy można biomechanicznie zmierzyć taniec? Czyli historia naukowej przyjaźni.”</i> prof. Joanna Gorwa (AWF Poznań)
09:30-11:00 <i>room WENECKA</i>	STUDENTS POSTER SESSION Chairpersons: prof. J. Gorwa, prof. M. Olakowski S1 K. Sekuta: <i>The use of generative design in the development of a personalized zygomatic bone implant for additive manufacturing from titanium alloy.</i> S2 K. Wilińska, M. Kozuń: <i>The effect of selected printing parameters on mechanical properties of specimens made of elastomeric material.</i> S3 Ł. Gałeczka, M. Muzalewska: <i>The use of foamed filaments in biomechanical hand prostheses</i> S4 K. Wilk, M. Kramarz, M. Muzalewska: <i>Rzep_CHECK a speech therapy aid supporting the child's motor and phonetic abilities.</i> S5 M. Wycisto: <i>Diodobłysk - a stimulating device for children with disabilities.</i> S6 J. Nowak, M. Kobielski, M. Muzalewska: <i>Four-legged walking platform in children's therapy - ReXio robodog.</i> S7 A. Holewik, O. Grabiec, W. Groelich, A. Miruk-Mirska, N. Kryza, Ł. Porosito, A. Michnik, M. Sobiech, I. Chuchnowska: <i>Analysis of problems related to the design of the hand prosthesis.</i> S8 J. Skudlarz, K. Jochymczyk-Woźniak, P. Szaflik, A. Głowiacka, H. Zadoń, R. Michnik: <i>Biomechanical analysis of gait with metrorhythmic stimulations - case study</i> S9 K. Leśkiewicz, K. Jochymczyk-Woźniak: <i>Strength analysis of pericardium extracted from the ox heart.</i> S10 K. Krutyło, M. Brzóska, E. Kawlewska, W. Wolański: <i>Analysis of mandible morphometry children and adolescents.</i> S11 W. Dylewicz, A. Mackiewicz, T. Klekiel, J. Gach, A. Noszczyk-Nowak, R. Będziński: <i>Analysis of the effect of structural changes of chordae tendineae on cardiac valve regurgitation in an animal model.</i> S12 J. Jagodyńska, K. Snarski, D. Iwan, A. Gryko, P. Prochor: <i>Design and prototype of a walker for a child with osteogenesis imperfecta.</i> S13 K. Snarski, J. Orzechowski, D. Iwan, A. Gryko, J. Jagodyńska, P. Prochor: <i>The concept of an assisting and rehabilitation stationary device for the elderly.</i> S14 N. Mędrowska: <i>The MRI-based 3D printed brain: An Interactive Arduino Project.</i> S15 N. Mędrowska, N. Poparda, M. Świderska, I. Ważydrag, Z. Zając, K. Szawiraacz, J. Więcek, R. Major, G. Milewski: <i>Model studies of hydrodynamic parameters of the human circulatory system.</i> S16 Z. Zając, A. Liber-Kneć, S. Łagan: <i>Evaluation of the mechanical properties of low viscosity acrylic bone cements.</i> S17 I. Ważydrag: <i>Piezoelectric properties assessment method for bone tissue.</i> S18 D. Ślimok, K. Joszko, W. Kajzer, K. Jochymczyk-Woźniak: <i>Analysis of the impact of the model setting on the material properties of a component produced by the SLS method.</i> S19 G. Dulęba, K. Joszko, W. Wolański, B. Gzik-Zroska, J. Majewska, M. Łos: <i>Determination of mechanical properties of biomorphic materials</i> S21 L. Katamba, O. Humeniuk, M. Janecki, R. Fedorowicz, A. Banaś., W. Kieś, J. Jurkojć, P. Wodarski, J. Flak: <i>NIRS - monitoring of blood flow in the cerebral cortex.</i>

<p>09:30-11:00 room WENECKA</p>	<p>S22 Ch. Amber, D. Tsoi, J. Krajewski: Detection of blood pump thrombosis from an acoustic signal.</p> <p>S23 A. Dziadek, P. Stehlík: Correlation between stress level and nicotine consumption in university students.</p> <p>S24 A. Stępniaak, A. Guzik-Kopyto, A. Miller-Banaś, R. Michnik: Analysis of gaze behavior of handball players performing penalty throws.</p> <p>S25 A. Bohdan, Ł. Mazurkiewicz, M. Tomaszewski, J. Małachowski: Numerical analysis of the implantation of the flow diverter device.</p> <p>S26 N. Jaskółka, A. Guzik-Kopyto: Project of a rehabilitation walker for the elderly people.</p> <p>S27 P. Czarnecki, E. Kawlewska, A. Mol, W. Wołński, M. Gzik, T. Koszutski: Quantitative assessment of cleft lip and palate treatment in infants using 3D scanning.</p>
<p>10:00-11:00 Room BIZNESOWA C</p>	<p style="text-align: center;">WORKSHOPS TECHNOMEX "IMU - jak to działa? Słów kilka na temat czujników inercyjnych"</p>
<p>11:00-11:30</p>	<p style="text-align: center;">COFFEE BREAK</p>
<p>11:30-11:45 room WENECKA</p>	<p style="text-align: center;">Best Student's Poster Awards M. Chmura, A. Dejneka, W. Marszałek</p>
<p>11:45-13:15 room BIZNESOWA C</p> <p></p>	<p style="text-align: center;">SPECIAL SESSION "Advances in the diagnosis and treatment of lung cancer"</p> <p>Chairpersons: dr Tadeusz Bold, prof. Tomasz Bielecki</p> <p style="text-align: center;">KEYNOTES:</p> <p style="text-align: center;">prof. Artur Szlubowski "New endoscopic techniques in the diagnosis of lung cancer"</p> <p style="text-align: center;">prof. Rafał Suwiński "Targeted therapy of lung cancer"</p> <p style="text-align: center;">dr Barbara Ziółkowska "Immunotherapy in lung cancer"</p> <p style="text-align: center;">dr Iwona Dębosz-Suwińska "Advances in radiation therapy of lung cancer"</p> <p style="text-align: center;">prof. Damian Czyżewski "New technologies in surgical treatment"</p>

	SPECIAL SESSION "Innovations in biomaterials" Chairpersons: prof. Zbigniew Paszenda, prof. C. Pezowicz
11:45-13:15 room BIZNESOWA A	<p style="text-align: center;">M. Jabłoński <i>"Advantages of electrodynamics test systems in biomaterials testing"</i></p> <p style="text-align: center;">prof. Juergen Lackner <i>"Atmospheric plasma spraying for pure and Zn alloyed hydroxyapatite coatings on 3D printed, temperature and distortion sensitive polymer and titanium implants for reconstruction of face and finger bone defects"</i></p> <p style="text-align: center;">prof. Andrzej Swinarew <i>"Fast screening breath analysis for diagnostics of pulmonary arterial hypertension"</i></p> <p style="text-align: center;">prof. Roman Major <i>"Novel materials solutions developed for a family of heart assist system"</i></p> <p style="text-align: center;">prof. Anna Ziębowicz <i>"ZrO₂ coating on cobalt alloys substrate as a factor to minimize prosthetic stomatopathy"</i></p>
13:00-14:00	LUNCH
14:00-15:30 room BIZNESOWA C	<p style="text-align: center;">SPECIAL SESSION Chairpersons: prof. B. Bacik, J. Bartodziej</p> <p style="text-align: center;">KEYNOTES</p> <p style="text-align: center;">prof. Michael Skipper Andersen (Aalborg University)</p> <p style="text-align: center;">Thomas Hock (Sales Director Simi GmbH)</p> <p style="text-align: center;"><i>"Markerless motion analysis systems – innovative tools in rehab and sports"</i></p>
15:30-16:00	COFFEE BREAK
16:00-17:30 room BIZNESOWA A	<p style="text-align: center;">PANEL SESSION A</p> <p style="text-align: center;">Chairpersons: prof. R. Będziński, prof. G. Milewski,</p> <ol style="list-style-type: none"> S. Wowra: Numerical simulations in biomedical applications. A. Nowicki, K. Osypko, D. Pyka: Fracture mechanics in terms of numerical analysis of biomedical materials used in implantology. D. Pyka, K. Olaleye, M. Bocian, K. Jamroziak: Assessment of body injury of a fencer protected by dedicated clothing with the use of a sword. N. Daniel, K. Sybilski, J. Matachowski: Selected aspects of using mechatronic sensors for muscle fatigue analysis. D. Nycz, J. Kühnl-Kinel, M. Zdziarski: "Wheelstair" – the design of an innovative wheelchair add-on.
16:00-17:30 room BIZNESOWA C	<p style="text-align: center;">PANEL SESSION B</p> <p style="text-align: center;">Chairpersons: prof. I. Lubowiecka, prof. K. Stomka</p> <ol style="list-style-type: none"> P. Szyszka, A. Czaplicki, T. Sacewicz: Barbell velocity in different snatch variations. S. Kalinowski, K. Szepietowska, E. Florentin, I. Lubowiecka: Concept of topology optimisation of surgical implant used in ventral hernia repair. W. Biesiada, B. Bacik, G. Sobota, W. Marszałek: Motion analysis of a single somersault 'wildcat' in snowboarding along with modeling the conditions of multiple rotations.

	<p>4. A. Płuciennik, M. Bachorz: Engineering support for the implementation and documentation of patient care in hospital conditions.</p>
<p>17:30-18:30 room WENECKA Technomex</p>	<p style="text-align: center;">POSTER SESSION</p> <p>Chairpersons: prof. A. Mazurkiewicz, prof. J. Szewczenko</p> <p>Ł. Oleksy, M. Kuchciak, G. Brill, A. Mika: <i>The role of quadriceps eccentricity in sport and RTS</i></p> <p>P1 U. Czajkowska, M. Żuk, C. Pezowicz, M. Popek, M. Łupusiewicz, K. Bulińska: <i>Low budget motion capture systems in the kinematics analysis of VR game users - preliminary study.</i></p> <p>P2 A. Dejneka, Ł. Mazurkiewicz, J. Małachowski: <i>Experimental studies and numerical analyses of selected muscle groups.</i></p> <p>P3 Ż. Pawlak-Andryszczyk, M. Andryszczyk: <i>Video analysis of motion reactions in infants during optical flow.</i></p> <p>P4 A. Niedziatek, K. Sybilski, M. Stankiewicz: <i>Using motion analysis for evaluation of the correctness of the mapping of a dance sequence.</i></p> <p>P5 M. Stankiewicz, K. Sybilski, S. Saternus: <i>Problems of measuring spinal movement during suspension therapy.</i></p> <p>P6 M. Tomaszewski, M. Kucewicz, R. Rzepliński, J. Małachowski, B. Ciszek: <i>Effect of initial boundary conditions on the character of flow in cerebral vessels.</i></p> <p>P7 K. Romanowska, D. Pytka, R. Śliwiński, K. Opielinski, K. Jamroziak: <i>Numerical modeling of ultrasonic wave propagation in soft tissue.</i></p> <p>P8 A. Kamieniarz, J. Michalska, W. Marszałek: <i>Diagnosis of muscle tremor in Parkinson's disease - pilot study.</i></p> <p>P9 D. Fryc, K. Wojciechowski: <i>Multijoint hip flexion resistance training in ankle stabilization and kinematics asymmetry.</i></p> <p>P10 M. Zdrodowska, A. Dardzińska-Głębocka: <i>Classification and decision rules as supporting tools in medicine.</i></p> <p>P11 A. Brachman, G. Sobota, M. Pawłowski, B. Bacik: <i>The COP time-series regularity and the level of attention devoted to posture.</i></p> <p>P12 J. Rduch, P. Jureczko, S. Duda: <i>Development of an exoskeleton made with the use of additive manufacturing technology for the elbow joint.</i></p> <p>P13 A. Miller-Banaś, R. Michnik, J. Kruszyńska-Szwedo: <i>Possibilities of using biomechanical research to assess the correct body posture while playing string instruments.</i></p> <p>P14 G. Gruszka, P. Wodarski, M. Chmura, M. Ples, H. Zadoń, P. Szaflik, A. Miller-Banaś, J. Jurkojć: <i>Analysis of VR influence on limits of stability.</i></p> <p>P15 Ł. Oleksy, M. Kuchciak, G. Brill, A. Mika: <i>The reliability evaluation of the Landmine punch throw test</i></p> <p>P16 K. Sybilski, S. Saternus, M. Stankiewicz, J. Małachowski: <i>Recording of changes in body support forces during suspension therapy.</i></p> <p>P17 A. Liber-Kneć, S. Łagan, I. Ważydrag: <i>The influence of infill density on density on mechanical properties of 3D printed PLA.</i></p> <p>P18 K. Marcula, M. Żak: <i>Numerical analysis of the posterior dynamic stabilization system of the lumbar spine.</i></p> <p>P19 A. Kasperczuk, A. Dardzińska-Głębocka: <i>Data mining in medical applications.</i></p> <p>P20 P. Burliga: <i>Isokinetic testing on the Biodex System 4 in evaluation of young football players.</i></p> <p>P21 M. Ples, M. Sobkowiak, H. Zadoń, G. Gruszka, P. Szaflik, M. Zadoń, M. Chmura, A. Miller-Banaś, W. Wolański: <i>Physical validation method of CFD simulation results for blood vessel flow with bifurcation.</i></p> <p>P22 P. Szaflik, M. Ples, M. Zadoń, G. Gruszka, M. Chmura, A. Miller-Banaś, J. Szewczenko, B. Gzik-Zroska, R. Michnik, H. Zadoń: <i>Influence of simulated vision defect on reaction time.</i></p> <p>P23 H. Zadoń, R. Michnik, K. Nowakowska-Lipiec: <i>Longitudinal analysis of physical activity.</i></p>

	P24 K. Goldsztajn, J. Lisoń-Kubica, J. Jaworska, K. Jelonek, M. Basiaga, M. Kaczmarek, J.Szewczenko: Properties of a biodegradable PLGA coating containing dexamethasone applied by ultrasonic spray coating on a Ti6Al7Nb alloy substrate.
	P25 A. Ortłowska, W. Kajzer, K. Goldsztajn, J. Szewczenko: Evaluation of the performance properties of the author's highly porous implant for the treatment of discopathies manufactured by SLM in Ti6Al4V alloy.
19:00	BARBEQUE (<i>Grill House near the Ski Slope</i>)

SUNDAY, May 21nd 2023

8:00-10:00	BREAKFAST
10:00	CLOSING OF THE CONFERENCE

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