

6th September 2018 - Biomaterials and Clinical Biomechanics

9:00-9:45	Plenary Lecture (Bldg. A-10, Aud. H044)	Gwendolen Reilly	<i>3D structures for in vitro bone mechanobiology</i>
	Session (Bldg. A-10, Aud. H044)	Soft and Hard Tissue Biomechanics	Chairmans: Gwendolen Reilly Jarosław Filipiak
9:50-10:15	KEYNOTE	Jerzy Malachowski	Constitutive models of human arteries in computations of stent implementation process - literature review and own experiences.
10:15-10:30		Paweł Borkowski	FE analysis of a temporal bone with the cochlea stimulated by bone conduction
10:30-10:45		Krzysztof Jankowski	New constitutive model of human trabecular bone based on nanoindentation technique
10:45-11:00		Rafał Perz	An evaluation of the bone cell efficacy
11:15-11:30		Barbara Łysoń	Musculoskeletal model of the foot used as an ankle joint brace evaluation method – preliminary study
	Session (Bldg. A-2, Aud. 102)	Cardiovascular Biomechanics	Chairmans: Ewa Majchrzak Romuald Będziński
9:50-10:15	KEYNOTE	Grzegorz Milewski	Analysis of heart insufficiency with the use of experimental model of the cardiovascular system
10:15-10:30		Michał Tomaszewski	Numerical analysis of the blood flow in an artery with stenosis
10:30-10:45		Natalya Kizilova	Modeling of pulse wave propagation and reflection along human aorta
10:45-11:00		Łukasz Mazurkiewicz	Influence of elevated temperature during crimping on results of numerical simulation of a bioresorbable stent deployment process
11:15-11:30		Tomasz Gajewski	Numerical verification of material identification of calcium deposit in balloon angioplasty of external iliac artery
11:30-12:00	Coffee Break	(Bldg. A-10, Main Hall, Part A)	

12:00-12:45	Plenary Lecture (Bldg. A-10, Aud. H044)	Patrik Schmuki	<i>Nano-engineered surfaces and cell response</i>
	Session (Bldg. A-10, Aud. H044)	Biomaterials	Chairmans: Patrik Schmuki Szczepan Piszczatowski
12:50-13:15	KEYNOTE	Marek Langner	Nano-medical approaches to diagnose and treat blood vessels
13:15-13:30		Tomasz Rusin	Non-Contact 3D deformation and strain measurements using digital image correlation for biomedical applications
13:45-14:00		Eugeniusz Sajewicz	Mechanical properties of dental materials subjected to wear tests
14:00-14:15		Rafał Brożek	Use of fibre-reinforced composite materials in dentistry
14:15-14:30		Miloslav Vilimek	Temperature distribution in hollow dental drill during drilling
	Session (Bldg. A-2, Aud. 102)	Dental Implants	Chairmans: Ching-Ting Hsu Antoni John
12:50-13:15	KEYNOTE	Katarzyna Arkusz	Application of nanotechnology in dental implants
13:15-13:30		Piotr Wądołowski	Finite element analysis of mini-plate stabilization of human mandible angle fracture – A comparative study
13:45-14:00		Dominik Pachnicz	Comparison of the bone fragments dislocation in two mandible fixation methods
14:00-14:15		Justyna Miodowska	FE modeling of the mandible with the cyst
14:15-14:30		Camille Spingarn	A new mechanobiological approach of bone remodelling for application to orthodontic tooth movement
14:30-15:30	Lunch	(Bldg. A-10, Main Hall, Part A)	
15:30-17:30	Poster Session	(Bldg. A-10, Main Hall, Part B)	
17:30-18:30	<i>Biomechanics Section, Polish Academy of Sciences</i>	(Bldg. A-10, Aud. H044)	

	– <i>General Meeting</i>	
18:30-24:00	GrapeHarvest	The Ethnographic Museum in Ochla (departure: in <i>front</i> of the <i>building</i> of A-11)

THE POSTER SESSION

P1.	Michał Staniszewski, Naji Hammoud, Przemysław Zybko, Katarzyna Witek, Magdalena Karczewska-Lindinger and Czesław Urbanik	Evaluation of the influence of two variants of plyometric training on lower limbs' muscle torques
P2.	Henryk Król and Krzysztof Kmiecik	Are leg electromyogram profiles symmetrical during full squat?
P3.	Frantisek Lopot, David Ravník, Klara Koudelkova, Petr Kubovy and Petr Stastny	The influence of woman's mastectomy on breathing kinematics
P4.	Aneta Liber-Kneć and Sylwia Łagan	Modeling viscoelastic behavior of pig's skin in the respect to its anisotropy
P5.	Robert Barański	Stability of the EMG signal level within a six-day measuring cycle
P6.	Mariam Ameer and Walaa Mohammad	Loaded treadmill training improves the spatio-temporal parameters in children with spastic diplegia
P7.	Piotr Borkowski, Jolanda Zuzda and Robert Latosiewicz	Strength, flexibility and temperature changes during step aerobics training
P8.	Wojciech Wolański, Michał Burkacki, Sławomir Suchoń, Julia Gruszka, Marek Gzik, Krzysztof Gieremek and Joanna Gorwa	Does vibration affect upper limb during Nordic Walking?
P9.	Sylwia Łagan, Agnieszka Chojnacka-Brożek and Aneta Liber-Kneć	FEM analysis of hyperelastic behavior of pig's skin with anatomical site consideration
P10.	Natalya Kizilova, Liliya Batyuk and Vitalina Cherevko	Human red blood cell properties and sedimentation rate: a biomechanical study
P11.	Martyna Michałowska, Tomasz Walczak, Jakub Krzysztof Grabski and Monika Grygorowicz	The importance of thyroid blood test parameters in hypothyroidism, assessed with the use of neural networks
P12.	Tomasz Walczak, Jakub Grabski, Martyna Michałowska and Dominika Szadkowska	Application of artificial neural networks in the human identification based on thermal image of hands
P13.	Krzysztof Busko, Adam Szulc and Justyna Kopczyńska	Physical fitness of deaf female soccer players
P14.	Tomasz Klekiel, Grzegorz Sławinski and	Analysis of the lower limb model response

	Romuald Bedzinski	under impact load
P15.	Ewa Paradowska, Marta Nycz, Katarzyna Arkusz, Bartosz Kudlinski and Elzbieta Krasicka-Cydzik	Impedimetric method to monitor biological layer formation on central venous catheters for hemodialysis made of carbothane
P16.	Jakub Krzysztof Grabski, Tomasz Walczak, Martyna Michałowska, Patrycja Pastusiak and Marta Szczetyńska	On different methods for calculating the flight height in the vertical countermovement jump analysis
P17.	Grzegorz Sławiński, Marek Świerczewski and Piotr Malesa	Risk assessment regarding the injuries of the lower limbs of the driver of a military vehicle in the case of an explosion under the vehicle
P18.	Artur Cichański and Krzysztof Nowicki	Trabecular bone microstructural FEM analysis for out-of plane resolution change
P19.	Antoni John and Małgorzata John	Experimental and numerical investigations of structures in the aspect of the use in rehabilitation exoskeletons for children
P20.	Marek Paruch	Breast cancer thermoablation using radiofrequency fast heating
P21.	Karolina Burzyńska, Janusz Bieżyński and Jarosław Filipiak	The influence of one-sided and two-sided locking bolts on the mechanical parameters of canine bone-intramedullary nail systems
P22.	Piotr Aschenbrenner and Włodzimierz S Erdmann	Tactics of alpine skiing running during FIS World Cup slalom – preliminary description
P23.	Małgorzata Sobera, Bożena Siedlecka and Arkadiusz Homańczuk	Symmetry of lower limbs loading in healthy young children
P24.	Paulina Szyszka, Krystyna Górniak, Małgorzata Lichota, Andrzej Mastalerz and Jerzy Sadowski	Stabilographic assessment of a child's body posture taking into account increasing backpack load
P25.	Robert Urbański, Włodzimierz Erdmann and Piotr Aschenbrenner	Oxygen consumption in different running velocity distribution – preliminary results
P26.	Jarosław Kabaciński, Michał Murawa, Anna Fryzowicz and Lechosław Bogdan Dworak	Differences in knee extensors peak torque and maximal power output in female sprinters
P27.	Olga Szymanowska, Dariusz Grzelczyk and Jan Awrejcewicz	A simple approach to simulate lower limb movement during gait
P28.	Justyna Skubich and Szczepan Piszczatowski	Computer-based estimation of the hip reaction force and abductor/adductor muscle forces during normal walking
P29.	Paulina Obrębska, Justyna Skubich and Szczepan Piszczatowski	Knee joint loadings during gait - gender differences
P30.	Wojciech Kunikowski, Olga Szymanowska, Mateusz Krain, Dariusz Grzelczyk, Jerzy	Open and scalable trajectory-based exoskeleton control system architecture

	Mrozowski and Jan Awrejcewicz	
P31.	Marta Kozuń and Celina Pezowicz	The influence of the atherosclerosis on the mechanical properties of the interface between layers of human thoracic aorta
P32.	Michał Turów, Mateusz Stachowiak and Wojciech Jopek	Bionic prosthesis for total upper limb amputees
P33.	Bartosz Stańczyk, Olga Szymanowska, Wojciech Kunikowski, Dariusz Grzelczyk, Jerzy Mrozowski and Jan Awrejcewicz	Conceptual design of a lower limb exoskeleton for gait rehabilitation
P34.	Ewa Majchrzak and Bohdan Mochnacki	Cattaneo-Vernotte model of biological tissue freezing process
P35.	Sylwia Wojda, Eugeniusz Sajewicz and Eliza Romańczuk	X-ray diffractometry characterization of friction and non-friction surface human dental enamel
P36.	Małgorzata Żak, Jan Jarosz and Celina Pezowicz	The effect of transpedicular screw design on the bending strength in finite element analysis
P37.	Marcin Starzak and Hubert Makaruk	Do organismic constraints determine footfall variability and approach run variables in non-long jumpers?
P38.	Marcin Sliwa and Tomasz Sacewicz	Changes in muscle torque and body temperature in volleyball players during a training microcycle
P39.	Paulina Szyszka, Robert Michnik, Adam Czaplicki, Jarosław Sacharuk and Tomasz Sacewicz	Trunk inclination angle and joint reactions during barbell squats
P40.	Wanda Forczek, Agata Masłoń, Agnieszka Suder, Marta Curyło, Barbara Frączek and Marcin Salamaga	Locomotor kinematics under pregnancy conditions - a longitudinal study
P41.	Anna Błaszczuk, Stanisław Czechowski, Małgorzata Ogurkowska and Katarzyna Wegner - Czerniak	Analysis of maximum upper limb joint torque in professional athletes practising asymmetrical strength and endurance sports
P42.	Stanisław Czechowski, Małgorzata B. Ogurkowska and Anna Błaszczuk	Comparison of maximum lower limb muscle torques in elite long paddle rowers
P43.	Anna Wybraniec and Agnieszka Szust	Analysis of dislocations of reconstructive implant in symmetrical and asymmetrical support - experimental research
P44.	Magdalena Zygmąńska, Małgorzata Ogurkowska and Anna Fryzowicz	Evaluation of the influence of the McKenzie method on the onset activation sequence of selected muscles during hip prone extension.
P45.	Konstanty Skalski, Anna Makuch, Paweł Marchlewski and Jakub Banczerowski	Innovative endoprosthesis design and manufacturing systems

P46.	Piotr Tabor, Dagmara Iwańska, Magdalena Karczewska-Lindinger, Olga Grabowska and Andrzej Mastalerz	Morphological and functional asymmetry among middle-distance sportswomen at the high sport level
P47.	Wojciech Marszałek, Andrzej Bieniek, Michał Pawłowski, Kajetan Słomka, Marek Gzik and Grzegorz Juras	Reliability of a new diagnostic test for a functional balance measurement
P48.	Monika Ratajczak, Tomasz Klekiel, Grzegorz Sławiński and Romuald Będziński	Influence of ballistic helmet padding characteristics on protection of the brain tissue
P49.	Agnieszka Szpala and Alicja Rutkowska-Kucharska	Symmetry of the electromechanical response in the knee muscles in young and old women
P50.	Paulina Dałek and Marek Langner	Determination of the lipid bilayer composition after mechanical extrusion
P51.	Michał Pawłowski, Wojciech Marszałek, Justyna Michalska, Anna Kamieniarz, Anna Brachman, Kajetan Słomka and Grzegorz Juras	Effect of different kind of intervention by using the Virtual Balance Clinic – preliminary case study measurements
P52.	Magdalena Wojtków and Celina Pezowicz	Analysis of the mechanical and structural properties of the intervertebral disc-endplate connection damage
P53.	Dorota Nosko and Włodzimierz Erdmann	Distribution of velocity in the 5000 m male speed skating of the best results in the history
P54.	Magdalena Tomanik, Aleksandra Pięta and Jarosław Filipiak	Influence of the FFF printing speed on the scaffolds properties - mechanical and qualitative assessment
P55.	Katarzyna Wegner-Czerniak, Anna Błaszczuk and Małgorzata Ogurkowska	Biomechanical evaluation of segmental muscle energy techniques used in the treatment for lumbar spine pain
P56.	Grzegorz Milewski, Stanisław Rumian and Michał Kopacz	Analysis of heart insufficiency with the use of experimental model of the cardiovascular system
P57.	Jakub Bańczerowski, Konstanty Skalski, Jerzy Jeleńkowski	An influence of plastic deformation parameters on the homogenization of titanium structure
P58.	Agnieszka Mackiewicz, A. Kaczmarek-Pawelska, J. Kurowiak, M. Malinowski, Ł.Zaręba, A. Noszczyk-Nowak, U.Pasławska, J.P. Madej, J.Skonieczna, M. Michałek, M. Płóciennik, K. Nowak and R.Będziński	Biomechanical investigation of animal urethra model
P59.	Sylwia Szotek, Joanna Dawidowicz, Aleksander Czogalla, Anna Kardas and Krzysztof Maksymowicz	Analysis of selected mechanical properties and structure of <i>fascia lata</i> at microscopic level
P60.	Anna Nikodem, Beata Nowak, Agnieszka	Effect of Mangiferin therapy on structural and

	Matuszewska, Jarosław Filipiak	mechanical properties of trabecular bone tissue in L4 vertebral rats
P61.	Artur Kruszewski, Szczepan Piszczatowski, Piotr Piekarczyk and Krzysztof Kwiatkowski	Stabilization of the intraarticular fractures of distal humerus – experimental and numerical analyses
P62.	Wojciech Blajer, Adam Czaplicki, Krzysztof Dziewiecki, Zenon Mazur and Tomasz Sacewicz	Comparison of the load on the musculoskeletal system during the snatch and the clean and jerk in weightlifting