



## Conference program

October, 10 <sup>th</sup> Thursday	
11:30	Departure to „Perła Południa” from Kraków
14:00 - 15:00	Lunch – Restaurant
15:30 - 15:45	<b>Opening ceremony</b>
<b>Session I Chairperson: Jan Chlopek</b>	
<b>Plenary lecture</b>	
15:45 - 16:30	<b>Jimi Adu, K. M. Gladwin , R. L. D. Whitby , S.V. Mikhalovsky , P. Tomlins</b> <i>(School of Pharmacy &amp; Biomolecular Sciences, University of Brighton, UK)</i> <b>In vitro Biocompatibility of Multiwalled Carbon Nanotubes with Sensory Neurons</b>
16:30 - 17:00	Coffee break - Cafe bar
<b>Chairpersons: Elżbieta Pamuła, Jimi Adu</b>	
<b>Keynote presentations</b>	
17:00 - 17:30	<b>Lucie Bacakova</b> <i>Metallic materials for load-bearing bone implants and their interaction with osteoblasts</i>
17:30 - 18:00	<b>Agnieszka Piegat, Mirosława El Fray</b> <i>New materials for heart assisting devices</i>
18:00 - 18:30	<b>Karol Gryń</b> <i>Multifunctional resorbable miniplates for trauma surgeries - pros and cons</i>
19:00 - 22:00	Regional feast - Cottage bar "Nad potokiem"
22:00 - 1:00	Disco - Cafe bar
October, 11 <sup>th</sup> Friday	
7:00 - 8:00	Swimming pool
8:00 - 8:45	Breakfast – Restaurant
8:30 - 9:00	<b>Posters mounting</b>
<b>Session II - Chairpersons: Agnieszka Piegat, Karol Gryń</b>	
<b>Plenary lecture</b>	
9:00 - 9:45	<b>Oleg Prymak, J.Enax, H.Fabritius, D.Raabe, M.Epple</b> <i>(University of Duisburg-Essen, Department of Inorganic Chemistry, Essen, Germany)</i> <b>Correlation of composition and structure of shark teeth</b>
<b>Oral presentations</b>	
9:45 - 10:00	<b>P. Domalik-Pyzik, A. Morawska-Chochól, A. Wrona, J. Chlopek, I. Rajzer</b> <i>Electrospinning and freeze-drying as methods for fabrication of tissue engineering scaffolds</i>
10:00 - 10:15	<b>J. Gajowy, M. El Fray</b> <i>Evaluation of chemical structure, microphase separation and self-assembling of poly(aliphatic/aromatic-ester-amide-ether)s (PAAEAE)s</i>
10:15 - 10:30	<b>K. Palka</b> <i>Analysis of biomaterials microstructure using microtomography (CT)</i>
10:30 - 11:00	Coffee break - Cafe bar
<b>Session III - Chairpersons: Lucy Bacakova, Oleg Prymak</b>	
<b>Plenary lecture</b>	
11:00 - 11:45	<b>Justyna Drukala</b> <i>(Jagiellonian University, Department of Cell Biology, Krakow, Poland)</i> <b>Stem cells for skin regeneration - clinical application</b>



Oral presentations	
11:45 - 12:00	<b>U. Posadowska, A. Moreira, R. Martins, E. Pamuła</b> <i>Preparation and characterization of drug delivery carriers for local administration of sodium alendronate</i>
12:00 - 12:15	<b>K. Pazdan, K. Pielichowska, J. Chlopek</b> <i>Synthesis and characterization of novel chitosan nanocomposite hydrogels for drug delivery and bone tissue engineering</i>
12:15 - 12:30	<b>M. Gołda, K. Gębarowska, M. Musiał-Kulik, J. Kasperczyk, A. Kotarba</b> <i>Multilayer versatile protective and therapeutic coating for implants - controlled drug delivery from oxygen plasma treated parylene</i>
13:00 - 14:00	Lunch – Restaurant
Session IV - Chairpersons: Anna Morawska-Chochól, Tomasz Goryczka	
Oral presentations	
15:00 - 15:15	<b>M. Sowa, A. Krzakała, G. Dercz, J. Michalska, W. Simka</b> <i>Plasma electrolytic oxidation of tantalum in silicate solutions</i>
15:15 - 15:30	<b>A. Kazek-Kęsik, M. Krok, J. Michalska, J. Piotrowski, E. Pamuła, W. Simka</b> <i>Biofunctionalization of Ti-15Mo alloy surface by PEO process</i>
15:30 - 15:45	<b>J. K. Koper, R. Majchrowski, J. Jakubowicz</b> <i>Titanium implant surface after hydroxyapatite sandblasting</i>
15:45 - 16:00	<b>D. Bociąga, P. Komorowski, W. Jakubowski</b> <i>DLC coating doped by specified elements as a biomaterial designed for individual patient needs</i>
16:00 - 16:15	<b>A. Donesz-Sikorska, J. Krzak-Roś, K. Marycz, J. Kaleta, E. Pamuła</b> <i>Effect of UV exposure time on physicochemical properties of sol-gel coatings</i>
16:15 - 16:30	<b>J. Skopińska-Wiśniewska, A. Baczis-Macikowska, A. Bajek, A. Sionkowska</b> <i>Effect of freeze and thawing on collagen materials</i>
16:30 - 18:00	Poster session and drinks
18:30 - 1:00	Regional feast - Cottage bar "Nad potokiem"
October, 12 <sup>th</sup> Saturday	
7:00 - 8:00	Swimming pool
7:00 - 8:00	Breakfast - Restaurant
8:30 - 13:00	Excursion - nature reserve Homole Ravine (Wąwóz Homole)
13:00 - 14:00	Lunch - Restaurant
Session V - Chairpersons: Krzysztof Pałka, Wojciech Simka	
Keynote presentation	
15:00 - 15:30	<b>Katarzyna Konopka</b> <i>Biomimetic solutions for medicine</i>
Oral presentations	
15:30 - 15:45	<b>P. Szczepańczyk, K. Pietryga, K. Pielichowska, J. Chlopek</b> <i>Bioactive composites polyurethane/β-TCP for orthopedic applications</i>
15:45 - 16:00	<b>J. Kolmas, E. Olędzka, M. Sobczak, G. Nałęcz-Jawecki</b> <i>Hydroxyapatite doped with selenite ions – a new material for potential biomedical applications</i>
16:00 - 16:15	<b>M. Parizek, T. Base, M. Hruby, V. Lisa, L. Bacakova</b> <i>Improved adhesion, growth and maturation of osteoblast-like MG 63 cells in cultures on titanium modified with gold particles</i>
16:15 - 16:30	<b>T. Szponder</b> <i>In vivo evaluation of biomaterials in veterinary medicine</i>
16:30 - 16:45	Closing ceremony
18:00 - 19:00	Dinner - Restaurant
20:00 - 0:00	Disco - Cafe bar
October, 13 <sup>th</sup> Sunday	
7:00 - 8:00	Swimming pool
8:00 - 9:00	Breakfast - Restaurant
10:00	Departure to Kraków from „Perła Południa”



## Poster session

**1. *In vitro* degradation of collagen scaffolds**

J. Kozłowska, A. Sionkowska

**2. *Effect of hyaluronan on dehydration and water properties of contact lens hydrogels***

K. Krysztofiak, D. Rajchel, A. Szyzewski

**3. *Anticorrosion properties of TiO<sub>2</sub> sol-gel coating in relation to pH of solution and presence of serum protein***

B. Burnat, T. Błaszczuk, A. Leniart

**4. *Preparation of amorphous oxide layers on titanium alloy Ti13 Nb13Zr***

A. Ossowska, A. Zieliński, M. Supernak

**5. *Composites with titanium and titanium alloy (Ti-6Al-4V) matrix and HAp phase for medical applications obtained with the method of powder metallurgy***

M. Klimas, A. Dudek, J. Klimas

**6. *Magnesium alloy AZ91 with plasma-deposited HAp coating***

J. Klimas, A. Dudek, M. Klimas

**7. *Effects of the preheating laser treatment on microstructure and corrosion resistance of Ti6Al4V bioalloy***

M. Jądzewska, A. Zieliński, I. Skalski, B. Majkowska

**8. *Comparison between low-melting porcelain used in titanium frameworks in dentistry***

M. Lubas, M. Głębička, Z. Bałaga, L. Jeziorski

**9. *Badania własności mechanicznych warstw SiO<sub>2</sub> przeznaczonych na implanty stosowane w układzie krwionośnym***

W. Walke, M. Basiaga, Z. Paszenda

**10. *Evaluation of mechanical, structural and thrombogenic properties of materials intended for the application in a disc of a Polish mechanical valve***

A. Szuber, M. Kościelniak-Ziemniak, K. Janiczak, M. Głowacki, M. Gawlikowski, R. Kustos, M. Gonsior, P. Wilczek, S. Duber, W. Kaczorowski, P. Niedzielski, J. Grabarczyk, W. Walke

**11. *Ocena reakcji zapalnej po implantacji polimerów konstrukcyjnych pompy ReligaHeart EXT po przetwórstwie***

M. Kościelniak-Ziemniak, K. Janiczak, R. Kustos, M. Gonsior, J. Wieczorek, J. Nożyński, B. Hajduk, J. Gąsiorowski, J. Wieszka

**12. *Badania własności mechanicznych kości wołowych i wieprzowych***

A. Kajzer, W. Kajzer, M. Basiaga, E. Kuna

**13. *Analiza biomechaniczna implantu krążka międzykręgowego z wykorzystaniem metody elementów skończonych***

W. Kajzer, A. Kajzer, I. Pindycki

**14. *New biodegradable rings for large intestine integration***

R. Drop, S. Mazurkiewicz, B. Szaraniec, Z. Woźny, K. Gryń, R. Cygan

**15. *Titanium oxidation effects after various surface modification methods***

J. Jasiński, M. Lubas, J. Jasiński

**16. *Properties of the biofunctionalized surface of Ti6Al4V alloy***

G. Adamek, J. Jakubowicz

**17. *The research of glass-ceramics implants used for bone pitches to examine bacteria adhesion occurring in human body***

B. Świczko-Żurek



- 18. Rat cartilage repair using collagen gel and bone marrow mesenchymal stem cells, the in vivo preliminary study**  
A. Bajek, J. Skopinska-Wisniewska, A. Rynkiewicz, A. Jundził, M. Nowacki, T. Drewa
- 19. Mechanical and tribological properties of a-C:H/Ti silver doped coatings by ion implantation and magnetron sputtering**  
W. Szymański, L. Kołodziejczyk, D. Batory, M. Czernika-Reczulska, D. Bociąga, B. Rajchel
- 20. RF PECVD modification of titanium dioxide filler of photo-degradable synthetic polymers used for medical purposes**  
A. Sobczyk-Guzenda, M. Gazicki-Lipman, H. Szymanowski
- 21. Iron containing bactericidal titanium dioxide coatings**  
A. Sobczyk-Guzenda, H. Szymanowski, S. Owczarek, M. Kawczyński, M. Gazicki-Lipman
- 22. Microstructure and properties of oxynitrided surface layer produced under hybrid low temperature plasma treatment**  
M. Tarnowski, A. Sowińska, J. Oleksiak, T. Borowski, E. Czarnowska, T. Wierzchoń
- 23. Effect of nitrided surface layers with different nanotopography on platelets adhesion**  
A. Sowińska, M. Tarnowski, W. Jakubowski, J. Oleksiak, T. Wierzchoń, E. Czarnowska
- 24. Evaluation of dental nickel alloy castings in the context of their relevance to the use after prosthetic post-production scrap application**  
K. Beer-Lech, K. Pałka, J. Borowicz
- 25. Surface modification of titanium alloy by micro-arc oxidation**  
J. Karbowniczek, M. Buzgo, F. Muhaffel, A. Czyrska-Filemonowicz
- 26. Sol-gel derived composite scaffolds for bone tissue regeneration**  
M. Bałtrukiewicz, Ł. John, P. Sobota
- 27. Hydroxyapatite microspheres coated with poly(D,L-lactide) as bone filler and antibiotic delivery system**  
A. Jelonek, A. Skórska-Stania, P. Myciński, J. Zarzecka
- 28. Electrochemical modification of AZ91D magnesium alloy surface in TCP suspension**  
A. Krząkała, A. Kazek-Kęsik, W. Simka, J. Michalska
- 29. Possibilities and limitations of the application of the Ilizarov method in veterinary medicine**  
S. Mazurkiewicz, M. Siwecki
- 30. Anticorrosion TiN/TiO<sub>2</sub> layer for surface protection of NiTi shape memory alloy**  
T. Goryczka, B. Łosiewicz, J. Lelaćko, T. Wierzchoń
- 31. Rheological and tribological properties of synovial fluids**  
J. Mystkowska, M. Karpiński, M. Klekotka, J. Popko, J.R. Dąbrowski
- 32. Struktura zmineralizowanych termowrażliwych hydrożeli chitozanowych**  
A.L. Skwarczyńska, Z. Modrzejewska, T.E.L. Douglas
- 33. Wyznaczanie właściwości mechanicznych wybranych kompozytów mikro-hybrydowych w teście trójpunktowego zginania**  
J. Filipiak, M. Jamka-Kasprzyk, A. Nikodem
- 34. In vitro biocompatibility study of biodegradable hybrid composites based on polylactide nanofibres and calcium alginate nanocomposite fibres**  
E. Menaszek, G. Szparaga, P. Król, E. Stodolak-Zych, M. Boguń
- 35. Characterization of Ti-15Mo alloy surface modified by PEO process in SiO<sub>2</sub> suspension**  
A. Kazek-Kęsik, M. Krok, J. Michalska, I. Kalemba, E. Pamuła, W. Simka
- 36. Enzymatic synthesis of poly(butylene succinate-co-ethylene glycol) multiblock copolymer (PBS-EG) catalyzed by lipase B from Candida antarctica**  
B. Gradzik, M. El Fray