



## CONFERENCE SCHEDULE

### Thursday, October 13

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11:30	Departure to „Perła Południa” from Kraków
13:00 - 15:00	Lunch – Restaurant
15:15 - 15:30	<b>Welcome and opening remarks</b>
	<b>Session I chaired by Prof. Elżbieta Pamuła and Dr. Cristine Courillon</b>
15:30 – 16:15	<b>Plenary lecture I – Prof. Cristine Dupont</b> <i>Polyelectrolyte and Protein Assemblies for The Design of Functional Thin Films and Materials</i>
16:15 – 17:15	<b>Oral presentations</b>
17:15 – 17:45	Coffee break
	<b>Session II chaired by Prof. Alina Sionkowska and Dr. Timothy E.L. Douglas</b>
17:45 – 19:00	<b>Oral presentations</b>
19:30 - late	Regional Dinner – Cottage bar "Nad potokiem"

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### Friday, October 14

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7:00 - 8:00	Swimming pool
7:00 - 8:30	Breakfast – restaurant
	<b>Session III chaired by Prof. Cristine Dupont and Prof. Andrzej Kotarba</b>
8:30 – 9:15	<b>Plenary lecture II – Prof. Tomasz Ciach</b> <i>Advanced Coatings - Important Finish for Medical Devices and Implants</i>
9:15 - 10:30	<b>Oral presentations</b>
10:30 - 11:00	Coffee break
	<b>Session IV chaired by Prof. Anna Belcarz and Prof. Andrzej Swinarew</b>
11:00 - 12:45	<b>Oral presentations</b>
13:00 - 14:00	Lunch – restaurant
	<b>Session V chaired by Prof. Joanna Mystkowska and Prof. Tomasz Ciach</b>
14:15 – 15:00	<b>Plenary lecture III – Dr. Cristine Courillon</b> <i>ERC Individual and Synergy Grants</i>
15:00 – 16:00	<b>Oral presentations</b>
16:00 – 16:30	Coffee break
	<b>Session VI chaired by Prof. Agata Przekora-Kuśmierz and Prof. Tomasz Goryczka</b>
16:30 – 17:30	<b>Oral presentations</b>
17:30 - 18:30	<b>Poster session</b>
19:00 - late	<b>Gala Dinner – 25 years of the “Engineering of Biomaterials” Journal</b>

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### Saturday, October 15

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7:00 - 8:00	Breakfast – Restaurant/Swimming pool
8:30 - 13:00	Excursion to Stary Sącz and Forest Pier
13:00 - 14:00	Lunch – Cottage bar “Nad potokiem”
15:00 – 16:00	<b>Rapid Fire Presentations – YSF/Poster session</b>
16:00 – 16:30	Coffee break
	<b>Session VII chaired by Prof. Krzysztof Pałka and Prof. Witold Walke</b>
16:30 - 18:30	<b>Oral presentations</b>
18:30 – 18:45	<b>Closing remarks and award session</b>
19:00 - late	Dinner – Cottage bar “Nad potokiem”

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### Sunday, October 16

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7:00 - 8:00	Swimming pool
7:00 - 9:00	Breakfast - restaurant
10:00	Departure to Kraków from „Perła Południa”

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## Thursday, October 13

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11:00	Departure to „Perła Południa” from Kraków
13:00 - 15:00	Lunch – Restaurant
15:15 - 15:30	<b>Welcome and opening remarks – Prof. Elżbieta Pamuła</b>
<b>Session I chaired by Prof. Elżbieta Pamuła and Dr. Cristine Courillon</b>	
15:30 - 16:15	<b>Plenary Lecture – Prof. Cristine Dupont</b> <i>Polyelectrolyte and Protein Assemblies for the Design of Functional Thin Films and Materials</i>
16:15 – 16:30	<b>Timothy E. L. Douglas</b> <i>Whey Protein Isolate Hydrogels for Tissue Regeneration and Drug Delivery</i>
16:30 – 16:45	<b>Jana Musilkova</b> , Antonin Sedlar, Milos Beran, Zdenka Kolska, Petr Slepicka, Martin Molitor, Lucie Bacakova <i>Stem Cell-Based Three-Dimensional Constructs for Fat Grafts</i>
16:45 – 17:00	<b>Elena Filova</b> , Andreu Blanquer Jerez, Monika Supova, Tomas Suchy, Adam Eckhardt, Marek Vrbacky, Martin Schätz, Zuzana Burdikova, Vera Jencova, Maxim Lisnenko, Lubos Behalek, Renata Prochazkova, Radek Sedlacek, Kristyna Kubasova, Jarmila Knitlova, Lucie Bacakova <i>Reinforced Collagen Gel with Adipose Tissue-Derived Stem Cells and Endothelial Cells for Cardiovascular Tissue Patches</i>
17:00 – 17:15	<b>Paulina Chytrosz-Wróbel</b> , Joanna Słomka, Monika Gołda-Cępa, Andrzej Kotarba <i>The RGD Adsorption for Biofunctionalization of Polyurethane Surfaces</i>
17:15 - 17:45	<b>Coffee break</b>
<b>Session II chaired by Prof. Alina Sionkowska and Dr. Timothy E.L. Douglas</b>	
17:45 – 18:00	Divya Kumar, Katarzyna Hilarowicz, Marek Bialoruski, Witold Piskorz, Monika Gołda-Cępa, Monika Brzychczy-Włoch, <b>Andrzej Kotarba</b> <i>When Bacteria Meet Graphenic Flakes - The Role of Edges</i>
18:00 – 18:15	<b>Agnieszka Kyzioł</b> , Agnieszka Cierniak, Sylwia Smuga, Piotr Jabłoński, Kamil Kleszcz, Roman Jędrzejczyk, Victor Sebastian, Manuel Arruebo <i>Bespoken Biomaterials - Synthetic Strategies of Tailored Nanomaterials Involving Metallic Nanoparticles and Bioactive Molecules</i>
18:15 - 18:30	<b>Magdalena Jarosz</b> , Bartłomiej Kost, Małgorzata Starek, Grzegorz D. Sulka <i>Nanostructured Titanium Dioxide Layers as Local Drug Delivery Systems</i>
18:30 – 18:45	<b>Lechośław F. Ciupik</b> <i>Targeted Advances in Innovative Spondyloimplantology</i>
18:45 – 19:00	<b>Artur Bonik</b> , Damian Obidowski, Agnieszka Kierzkowska, Lechośław F. Ciupik <i>Model Study of Strengthening the Osteoporotic Vertebral Body with Bone Cement</i>
19:30 - late	<b>Regional Dinner – Cottage bar “Nad potokiem”</b>

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## Friday, October 14

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7:00 – 8:00 Swimming pool

7:00 – 8:30 Breakfast – restaurant

### Session III chaired by Prof. Cristine Dupont and Prof. Andrzej Kotarba

**8:30 – 9:15 Plenary lecture - Prof. Tomasz Ciach**

*Advanced Coatings - Important Finish for Medical Devices and Implants*

9:15 – 9:30 Anna Michalicha, Cristina Canal, Albert Espona-Noguera, Mateusz Pięt, Barbara Budzyńska, Stanisław Przywara, **Anna Belcarz**

*Polycatecholamine Functional Coatings on Collagen-Sealed Polyester Vascular Prostheses*

9:30 – 9:45 **Monika Gołda-Cępa**, Paulina Chytrosz-Wróbel, Paulina Gogacz, Joanna Szydłowska, Kamil Drożdż, Monika Brzychczy-Włoch, Andrzej Kotarba

*Plasma-Etched Polymers of Various Crystallinity - Correlating Biocompatibility and Topography*

9:45 – 10:00 Anna Taratuta, Julia Lisoń, Magdalena Antonowicz, Zbigniew Paszenda, **Marcin Basiaga**

*Research on the Physicochemical Properties of Titanium Nitride Coating on Metallic Biomaterials*

10:00 – 10:15 Piotr Komorowski, Kamila Białkowska, Malgorzata Siatkowska, Paulina Sokołowska, Krzysztof Makowski, Marcin Elgalal, Andrzej Styczyński, Marta Kamińska, Bożena Rokita, **Bogdan Walkowiak**

*Cyto- and Genotoxicity of Laser-Modified Surfaces of Metallic Medical Alloys*

10:15 – 10:30 **Adam Byrski**, Roman Major, Łukasz Major, Katarzyna Kasperkiewicz

*Surface Treatment Impacts Properties of Materials Dedicated for Finger Implants*

10:30 – 11:00 Coffee break – Poster viewing

### Session IV chaired by Prof. Anna Belcarz and Prof. Andrzej Swinarew

11:00 – 11:15 **Gokhan Demirci**, Malwina Niedźwiedz, Nina Kantor-Malujdy, Mirosława El Fray

*Synthesis and Characterization of Amphiphilic Polymer Networks*

11:15 – 11:30 **Vladyslav Vivcharenko**, Michał Wójcik, Agata Przekora

*Vitamin C Enriched Biocompatible and Biodegradable Film Obtained from Marine-Derived Natural Polysaccharides*

11:30 – 11:45 **Sylwester Domański**, Marzena Kaliszewska-Kozak, Mateusz Kuśmierk, Agnieszka Zakrzewska, Marta Klak, Michał Wszola

*NMR-B and Rheological Supported Quantitative Assessment Polymerization Rate of Biopolymers (GELMA)*

11:45 – 12:00 **Anna Michalicha**, Magdalena Kulpa-Greszta, Anna Tomaszewska, Robert Pązik, Anna Belcarz

*Curdlan Modified With Silver and Fe<sub>3</sub>O<sub>4</sub> Nanoparticles via Poly(L-Dopa) Deposits as Blood-Compatible Wound Dressing Candidates*

12:00 – 12:15 **Katarzyna Klimek**, Aleksandra Benko, Marta Vandrovцова, Martina Travnickova, Timothy E.L. Douglas, Marta Tarczyńska, Antonin Broz, Krzysztof Gawęda, Grażyna Ginalska, Lucie Bacakova

*Biomaterial Composed of Curdlan, Whey Protein Isolate, and Hydroxyapatite for Osteochondral Tissue Applications*

12:15 – 12:30 Sebastian Wilk, Krzysztof Pietryga, Marek Stencel, Jacek Nizioł, Marcel Zambrzycki, Jacek Stępniewski, Alicja Martyniak, Józef Dulak, **Aleksandra Benko**

*Developing the Electrical Stimulation Chamber to Aid Cardiomyocytes Maturation*

12:30 – 12:45 **Andreu Blanquer**, Laura Lefaix, Elena Filova, Jaume Esteve, Lucie Bacakova, Gonzalo Murillo

*Piezoelectric Nanogenerators to Enhance Skin Wound Healing*

13:00 – 14:00 Lunch – restaurant

**Session V chaired by Prof. Joanna Mystkowska and Prof. Tomasz Ciach**

- 14:15 – 15:00 **Plenary lecture - Dr. Cristine Courillon**  
*ERC Individual and Synergy Grants*
- 15:00 – 15:15 **Lecture sponsored by Polbionica – Prof. Michał Wszola**  
*Challenges in Clinical Applications of 3D-Bioprinted Bionic Organs*
- 15:15 – 15:30 **Andrzej Swinarew**, Jadwiga Gabor, Paweł Raif, Grzegorz Brożek, Agnieszka Jarosińska, Jan E. Zejda, Szymon Skoczyński, Jarosław Paluch, Arkadiusz Stanula  
*Exhaled Air Metabolome Analysis for Childhood Asthma Fingerprints Identification - The Preliminary Study*
- 15:30 – 15:45 **Konrad Kwiecień**, Iwona Pudętko, Karolina Knap, Katarzyna Reczyńska-Kolman, Małgorzata Krok-Borkowicz, Dorota Ochońska, Monika Brzychczy-Włoch, Elżbieta Pamuła  
*Hydrophobic Gentamicin - Advantages in Drug Delivery to Bone Tissue*
- 15:45 – 15:55 **Konrad Łuźniak**, CeCert  
*A Medical Device on the Market - the Path from an Idea to Use in Patient*
- 15:55 – 16:05 **Adam Sobantka**, PureClinical  
*Preparations for a Clinical Trial in the Context of Obtaining a Grant*
- 16:05 – 16:30 Coffee break – Poster viewing

**Session VI chaired by Prof. Agata Przekora-Kuśmierz and Prof. Tomasz Goryczka**

- 16:30 – 16:45 **Ewa Kłodzińska**, Marek Konop, Yaroslav Zrobok, Joanna Czuwara  
*Application of Micellar Electrokinetic Chromatography for Detection of Silver Nanoparticles Released from Wound Dressing*
- 16:45 – 17:00 **Yevheniia Husak**, Vladlens Grebnevs, Artur Maciej, Roman Viter, Maksim Pogorielov, Wojciech Simka  
*Surface Modification of Ti and Mg for Bone Tissue Implants*
- 17:00 – 17:15 **Paweł Pomastowski**, Adrian Arendowski, Dorota Białczak  
*Study on Lipidomic Profiles of Potential Starter Cultures by LDI Approaches*
- 17:15 – 17:30 **Piotr Piszczek**, Barbara Kubiak, Aleksandra Radtke, Julia Śmigiel, Tadeusz Muzioł, Grzegorz Wrzeszcz  
*The (Polymer/Titanium(IV)-Oxo Clusters) Composite Films as The Biomaterials of Antimicrobial and Photocatalytic Activity*

17:30 – 18:30 **Poster session**

19:00 - late **Gala Dinner – 25 years of the “Engineering of Biomaterials” Journal**



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## Saturday, October 15

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7:00 - 8:00 Breakfast – restaurant/Swimming pool  
8:30 - 13:00 on to Stary Sącz and Forest Pier  
13:00 - 14:00 Lunch – Cottage bar “Nad potokiem”

### 15:00 - 16:00 Rapid Fire Presentations – YSF

16:00 – 16:30 Coffee break

### Session VII chaired by Prof. Krzysztof Pałka and Prof. Witold Walke

16:30 - 16:45 **Marek Konop**, Łukasz Mazurek, Mateusz Rybka, Anna Laskowska, Joanna Czuwara, Mateusz Szudzik, Ewa Kłodzińska, Marcin Ufnal  
*Keratin Biomaterials Containing Opioids Accelerate Skin Wound Healing In Vitro and In Vivo Studies*

16:45 – 17:00 **Barbara Kubiak**, Piotr Piszczek, Aleksandra Radtke, Patrycja Golińska  
*Comparison of Photocatalytic and Antimicrobial Properties of Composites Made of Polymer and Titanium(IV) Oxo-Complexes with  $Ti_6O_6$  and  $Ti_6O_4$  Core*

17:00 – 17:15 **Agnieszka Dubiel**, Damian Nakonieczny, Witold Walke, Magdalena Antonowicz, Justyna Majewska, Sylva Holesova, Karla Barabashova  
*Silanization of Spherical Aluminosilicates Using Tetraethoxysilane (TEOS) and (3-Aminopropyl) Triethoxysilane (APTES), Taking into Account Process Variables, i.e. Temperature and Heat Treatment Atmosphere*

17:15 – 17:30 **Sara Sarraj**, Małgorzata Szymiczek  
*Changes in Selected Properties of Silicone Biocomposites under Accelerated Aging Conditions*

17:30 – 17:45 **Filip Kuśmierczyk**, Maciej Sitarz, Alicja Łukaszczyk, Tomasz Moskalewicz  
*Multicomponent n-HA/ZnS/S-PEEK Coatings on Zirconium Alloy: Fabrication, Microstructure and Selected Properties*

17:45 – 18:00 **Filip Maciąg**, Zoya Hadzhieva, Katarzyna Cholewa-Kowalska, Michał Dziadek, Tomasz Moskalewicz, Aldo R. Boccaccini  
*Electrophoretic Deposition, Microstructure and Biological Properties of Mesoporous Sol-Gel Glass/Zein Coatings on Ti-13Nb-13Zr Alloy*

18:00– 18:15 **Closing remarks and award session**

19:00 - late Dinner – Cottage bar “Nad potokiem”

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## Sunday, October 16

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7:00 - 8:00 Swimming pool  
7:00 - 9:00 Breakfast - restaurant  
10:00 Departure to Kraków from „Perła Południa”

# SPONSORS & EXHIBITORS

## Best Poster and Rapid Fire Competition Award Sponsors



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**CeCert** is a dynamically developing certification and notified body offering its services in certification: management systems, medical devices, training, and supplier audits. In 2019, we were entered on the list of authorized ERCA partners in the field of audit training, and from 2020 we have been accredited by the Polish Center for Accreditation for the QMS

PN-EN ISO 9001: 2015-10 and MDMS PN-EN ISO 13485: 2016-04 programs. In October 2021, the Minister of Health authorized CeCert in the field of in-vitro diagnostic medical devices and appointed it as a notified body. On January 3, 2022, we were assigned the number of a notified body - 2934. We are currently trying to obtain notification in the scope of Regulation 2017/745 regarding medical devices.

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## Lecture and Conference Sponsor



POLBIONICA is a biotech company established by the Foundation on Research and Development of Science to commercialise 3D bionic pancreas research and thinks boldly about the future.

The application of the bionic pancreas in clinical practice will revolutionise the treatment of diabetes and become one of the greatest medical successes of the 21st century. Concerning the growing number of patients with type I diabetes and the limitations of available treatments, functional 3D bioprinting is a viable option to overcome the problem of organ shortage and will also reduce the number of complications associated with surgery and the use of long-term immunosuppression after transplantation.

In late 2020, we completed the preclinical phase of 3D bionic pancreas research; we are developing very promising results and we are also preparing for the clinical phase. While working on the 3D bionic pancreas bioprinting project, we created proprietary products crucial for the 3D bioprinting development. These include customised bio inks, a bioreactor, and innovative bioprinting methods.

### Contact information

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