



## Summary of the 26th Annual Conference

Dear Colleagues and Friends,

**We are extremely grateful for your presence at the 26th Annual Conference 'Biomaterials in Medicine and Veterinary Medicine.**

During the Conference, we had a pleasure to listen to 4 outstanding Plenary Lectures delivered by **Prof. Maria Chatzinikolaidou, Prof. Józef Dulak, Prof. Janusz M. Rosiak,** and **Prof. Triantafillos Papadopoulos.** There were 27 oral presentations, including 2 given by the representatives of this year's exhibitors: **IR Tech** and **Arburg Plastic Freeforming,** 55 poster presentations and 8 Rapid Fire presentations, part of the Best Poster Competition. We have all learned a lot and enjoyed high level of scientific discussions.

It is a good place to congratulate once again the winners of the **Best Poster and Rapid Fire Competition** organized under the auspices of the Young Scientists Forum of the ESB: **Bartosz Mielan, Katarzyna Reczyńska** and **Justyna Pawlik** – we wish you all the best in your further scientific career. All of the awarded authors received 100€ book vouchers, generously sponsored by **Springer.** This year we had also a wonderful opportunity to celebrate the **20th Anniversary of the Engineering of Biomaterials** – journal published by the Polish Society for Biomaterials since 1997. To celebrate the anniversary, President of the PSB – Prof. Elżbieta Pamuła announced the **Best Paper Competition.**

One cannot forget about the unique atmosphere of the social events. Thank you for participating in those three amazing evenings: Welcome Reception at the cottage bar "Nad potokiem", Conference Dinner celebrating the 20th Anniversary of the Engineering of Biomaterials with delicious food and live music, and Saturday's karaoke and disco. Hope you all enjoyed the trip to Grybów and Stara Baśń castl, as well.

We were truly privileged to have all of you at the 26th Annual Conference 'Biomaterials in Medicine and Veterinary Medicine'. **Thank you!**

Best regards,  
**Organizing Committee**



## **POLISH SOCIETY FOR BIOMATERIALS**

AGH University of Science and Technology  
Faculty of Materials Science and Ceramics  
Department of Biomaterials and Composites  
Al. A. Mickiewicza 30  
30-059 Kraków

## **ORGANIZING COMMITTEE**

Jan Chłopek - Chair of the Conference  
Barbara Szaraniec - Secretary  
Elżbieta Pamuła - Editor of the Engineering of Biomaterials Journal  
Katarzyna Trała - Secretary of the Engineering of Biomaterials Journal  
Augustyn Powroźnik – PSB Treasurer  
Karol Gryń - YSF representative  
Patrycja Domalik-Pyzik – Website administrator

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## General Information

The **Conferences on Biomaterials in Medicine and Veterinary Medicine** are held every year and address both fundamentals and clinical applications of carbon, metals, polymers, ceramics and composite biomaterials. Their aim is to present the latest results of scientific research as well as to exchange ideas, knowledge and experience of scientists, researchers and clinicians in the field of biomaterials.

The topics to be covered during the Conference include, but are not limited to:

- Smart biomaterials
- Surface modification and functionalization
- Advanced manufacturing
- Antimicrobial surfaces and materials
- Biointerfaces
- Bioimaging and biosensing
- Tissue engineering / Regenerative medicine
- Drug and gene delivery
- Cell encapsulation and delivery
- Stem cells
- Cancer therapy
- Bone and cartilage
- Neural regeneration
- Cardiovascular applications
- Biomechanics and micromechanics
- Clinical trials
- Translation and commercialization



## ABSTRACTS

All participants intend to contribute oral and/or poster presentations were requested to prepare one-page abstract in English, which was published in conference materials (non-reviewed special edition of the "Engineering of Biomaterials,, Journal ). Each author might submit maximum two abstracts (one for oral and one for poster or two for poster presentations).

Abstract submission was only possible during registration via our online system. Only abstracts from individuals who have paid the registration fee were published.

**We have accepted total number of 86 abstracts.**

## FULL PAPERS

We invited all participants to send full papers for publication in a regular issue of the "Engineering of Biomaterials" Journal (peer-reviewed, included in Index Copernicus Journals Master List (ICV=6,14), with the Polish Ministry of Science and Higher Education scoring - 7 points).



## ORAL AND POSTER PRESENTATIONS

We had 4 plenary lectures (45 mins long), 27 oral presentations (15 mins each) and 55 poster presentations including 8 rapid fire presentations within the Best Poster Competition.



## Prof. Maria CHATZINIKOLAIDOU

### Plenary Lecture: **Co-Polymeric Biomaterials for Bone Tissue Engineering**

*Department of Materials Science and Technology University of Crete*

*P.O. Box 2208, 71001 Heraklion Crete, Greece*

*Institute of Electronic Structure and Laser (IESL)*

*Foundation for Research and Technology Hellas (FORTH)*

*P.O. Box 1527, 71110 Heraklion, Greece*



**Dr. Maria Chatzinikolaidou** is an Assistant Professor in Biomaterials in Tissue Engineering at the Department of Materials Science and Technology, University of Crete (tenured in 2014) and affiliated researcher at the Foundation for Research and Technology – Hellas (FORTH). Her research interests focus on the development of biomaterials scaffolds, in vitro and in vivo biocompatibility, tissue engineering (bone, dental, cardiovascular). Dr. Chatzinikolaidou is actively involved in several competitive national and international projects, is author of more than 45 publications in international peer-reviewed journals, 2 book chapters, 120 peer-reviewed conference abstracts and inventor of 3 patents on osteoinductive implants. She is co-organizer of numerous national and international conferences. Since 2012, she is elected member of the Executive Board of the Hellenic Society for Biomaterials (and serves as vice president in the 2015-2018 term). She is Chair of the 28th Conference of the European Society for Biomaterials (ESB 2017) to be held September 2017 in Athens.

## Prof. Józef DULAK

### Plenary Lecture: **Heart Injury and Repair: Hopes and Hypes of Cell Therapies and Biomaterials**

*Department of Medical Biotechnology*

*Faculty of Biochemistry, Biophysics and Biotechnology*

*Jagiellonian University 7 Gronostajowa St., 30-387 Krakow, Poland*

*Kardio-Med Silesia Medical Technology Park*



**Jozef Dulak**, PhD, DSc, is a tenured professor of biochemistry and biotechnology, and since 2005 the head of the Department of Medical Biotechnology at the Faculty of Biochemistry, Biophysics and Biotechnology of the Jagiellonian University. Since 2016 he is also the Scientific Director of the Kardio-Med Silesia – the Silesian Park of Medical Technologies in Zabrze, Poland. Prof. Dulak's research interests concern stem cell biology, vascular biology and medicine, gene and cell therapy, cancer biology, microRNAs, inflammation, hypoxia and oxidative stress-driven mechanisms of diseases. Prof. Dulak is the co-author of more than 180 papers, cited almost 5000 times and his h-index is 42.

He is a doctor honoris causa of the University of Orleans, France (2012), a corresponding member of the Polish Academy of Arts and Sciences (since 2011) and the president of the European Vascular Biology Organisation (EVBO) (2013-2015; 2015-2017). Since 2013 he is the coordinator of the International Associated Laboratory (LIA – Laboratoire International Associe), supported by CNRS, France and Jagiellonian University. Prof. Dulak is also (2011-2014; 2015-2018) a member of the Committee for Evaluation of Scientific Institutions (KEJN) at the Ministry of Science and Higher Education, Warsaw, Poland. He is the Fellow of the European Society of Cardiology (FESC) and he is in the editorial board of Arteriosclerosis, Thrombosis and Vascular Biology, Scientific Reports, PLoS One and Vascular Pharmacology..



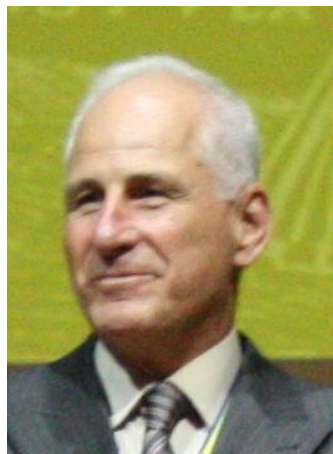
## Prof. Triantafillos PAPADOPOULOS

Plenary Lecture: **Alternative Bioceramics for Repairing Jaw Bone Defects**

*Department of Biomaterials, Dental School*

*National and Kapodistrian University of Athens (NKUA)*

*Thivon 2, Goudi, Greece*



**Triantafillos Papadopoulos**, D.D.S., PhD. is a Professor in Dentistry at the Department of Biomaterials, Dental School, National and Kapodistrian University of Athens (NKUA) in Greece. He graduated from Dental School of NKUA where he also defended his PhD thesis. Prof. Papadopoulos did postgraduate studies at the Department of Dental Materials and Technology in Karolinska Institute, Sweden. His research interests focus on the development of biomaterials for oral surgery and dental applications. Prof. Papadopoulos participated as coordinator in two European programs, three national projects and several programs of NKUA. He is the author of 80 scientific publications, two books, chapters in another three books, more than 170 presentations at national and international conferences and dozen reviews for international journals. Prof. Papadopoulos served as a President of the

Hellenic Society of Biomaterials. He is a Member of the Council of the Presidents of the European Society for Biomaterials and he is a Vice-Chair of the 28th Conference of the European Society for Biomaterials (ESB 2017), 4-8 September 2017, Athens.

## Dr. Janusz M. ROSIAK

Plenary Lecture: **Radiation Formation of Hydrogel Biomaterials**

*Institute of Applied Radiation Chemistry*

*Technical University of Lodz*

*15 Wroblewskiego St., 93-590 Lodz, Poland*



**Janusz M. Rosiak**, D.Sc. Ph.D. M.Sc., Eng. is a Professor at Lodz University of Technology, Poland, Head of the Division of Applied Radiation Chemistry at Chemistry Faculty and Director of the Centre of Excellence "Lasers & Biomaterials in Medicine" (since 2000). President of the Council of the Foundation of Radiation Research (Poland, since 2008). Member of Chemistry Committee of Polish Academy of Science. As an expert of the International Atomic Energy Agency (IAEA, Vienna) he conducted over 30 technical missions on behalf of the IAEA to the research centers around the world. He is the author and coauthor of over 140 original scientific papers, hundreds of conference contributions and over 30 patents. His papers were cited over 3000 times, the resulting H-index equals 30 (Scopus).

He was a promoter of 12 Ph.D. theses, tens of M.Sc. works and a supervisor of several long-term research trainings of foreigner researchers in Poland. He is a main inventor of radiation technology of hydrogel wound dressings, patented and commercialized in a number of countries. Research topics of interest of prof. Rosiak focus on engineering of biomaterials, principally modification of polymeric materials towards applications in medicine, especially hydrogels and nanogels; drug delivery systems; artificial organs; improvement of biocompatibility of implants; smart polymeric materials; mechanisms and kinetics of radiation-induced reactions of macromolecules in solution; sterilization. He was the chairman of the 52nd Congress of Polish Chemical Society, Łódź, 2009 and the chairman of the International Conference on „Ionizing Radiation and Polymers” IRaP2012, Cracow, 2012.



## THE BEST POSTER and RAPID FIRE COMPETITION

Participants of the Best Poster Competition were asked to prepare 3-min Rapid Fire Presentations. Those were presented during special session and evaluated together with the posters.

Members of the Jury: Prof. Tomasz Goryczka and DR. Susanne Stälke awarded following Young Scientists:

1

**Bartosz Mielan**

*Modification of Microspheres' Microstructure for Application as Cell Carriers in Modular Tissue Engineering*

2

**Katarzyna Reczyńska**

*The Influence of Saturated Fatty Acids on Human Lung Epithelial Cells*

3

**Justyna Pawlik**

*High-Temperature Microscopy: A Practical Tool for Bioceramics Composites Examinations*

The awards (100€ book vouchers) were sponsored by Springer.



# Springer



## Regional Dinner

Cottage bar „Nad potokiem”

Thursday, 12 October 19:00-01:00



Folk music, delicious food and drinks, exceptional atmosphere.

## Conference Dinner

Friday, 13 October 19:00-01:00



We celebrated 20th Anniversary of the Engineering of Biomaterials Journal





## Excursion

Stara Baśń and Grybów

Saturday, 14 October 08:30-13:00

