



34th Biomaterials in Medicine and Veterinary Medicine **Annual Conference**

9 – 12 October 2025 Rytro, Poland



**The 34th Annual Conference of the Polish Society for Biomaterials
„Biomaterials in Medicine and Veterinary Medicine”
9-12 October 2025, Rytro, Poland**



Dear Colleagues and Friends,

It was a pleasure to welcome you to another memorable edition of our conference. It is time to summarize it in a few paragraphs.

First of all, we were privileged to host three distinguished plenary speakers. Prof. Rui L. Reis opened the meeting with a compelling lecture on engineering cell–material platforms for the development of complex 3D in vitro disease models; Prof. Lino Ferreira presented his work on delivery strategies to regenerate and rejuvenate tissue, and Prof. Joanna Natarska offered a thorough account of the prothrombotic mechanisms underlying biocompatibility failures and the methods used to assess them. Prof. Cristina C. Barrias completed the invited talks with a keynote lecture on microfluidic models of epithelial–stromal–vascular crosstalk in regeneration and disease.

These were complemented by a rich scientific programme spread across six thematic sessions: 27 podium presentations, 86 posters, and 11 rapid-fire presentations delivered by our early-career researchers. We were also pleased to hear from Maciej Gołaszewski, who introduced the work of BioCloner Health in the field of 3D bioprinting. With 136 participants and 117 submitted abstracts, the conference was filled with the latest advancements in the biomaterials research, and the discussions continued well beyond the lecture hall, throughout the coffee breaks and evening gatherings.

As usual, under the auspices of the ESB Young Scientist Forum, we held our Best Poster and Rapid Fire Competition. Our warm congratulations go to Patryk Śniarowski, recognised for his work on shape-memory polyurethanes for medical applications, and to Kamila Walczak, for her research on near-field electrospun membranes for osteochondral tissue scaffolds. Both awards were extremely well deserved.

One occasion deserves a special mention. At the welcoming "Nad potokiem" cottage bar, we celebrated Timothy Douglas's twentieth year with our conference and presented him with a certificate of appreciation, in recognition of two decades of friendship and dedicated scientific contribution.

Thank you, Tim!

We also extend our sincere gratitude to our sponsors: BioCloner Health, I.C. Lab, and Altium International for their generous support of the conference and for sharing their expertise with us.

That was again an amazing conference!

See you next year (October 8-11, 2026)!

Your Organizing Committee

Elżbieta Pamuła

Barbara Szaraniec

Katarzyna Trała

Patrycja Domalik-Pyzik



POLISH SOCIETY FOR BIOMATERIALS

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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 117 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, with the Polish Ministry of Science and Higher Education scoring – 20 points).

ORAL AND POSTER PRESENTATIONS

We had 3 plenary lectures, 1 keynote presentation, 27 oral presentations , 86 poster presentations, and 11 rapid fire presentations within the Best Poster Competition.



Prof. Rui L. Reis

Opening Lecture: Exclusive Cell/Material Interactions Platforms Leading to Novel Methodologies for The Elaboration of Innovative Complex 3D In Vitro Disease Models

3B's Research Group

I3Bs

University of Minho

Guimaraes

Portugal



Rui L. Reis, PhD, DSc, Hon. Causa MD, Hon Causa PhD, FBSE, FTERM, member of NAE, FAIMBE, FEAMBES, is a Full Professor of Tissue Engineering, Regenerative Medicine, Biomaterials and Stem Cells at University of Minho (UMinho), Portugal. He is the Founding Director of the 3B's Research Group and the Dean/President of the I3Bs – Institute for Biomaterials, Biodegradables and Biomimetics, as well as the Director of the ICVS/3B's Associate Laboratory, all based at UMinho. He is also the CEO of the European Institute of Excellence on Tissue Engineering and Regenerative Medicine.

He has been (2015-2018) the Global President of the Tissue Engineering and Regenerative Medicine International Society (TERMIS) and was the Editor-in-chief of the Journal of Tissue Engineering and Regenerative Medicine (2007-2021), was an Associate Editor of PNAS-NEXUS (2022-2024), and is presently an Associated Editor of Bioactive Materials (2024-...), being also in the Editorial Board of several other relevant journals. He is a recognized World expert in the TERM and biomaterials fields, that has edited several books and has more than 1910 published works listed on ISI Web of Knowledge with an h index of 121 (1795 works and h=133 in Scopus and 2820 and h=159 in Google Scholar), being also an inventor of around 130 patents. He has more than 1300 publications with more than 10 citations each (i10). Based on those, he co-founded several companies that raised important private investments. According to Google Scholar his work has been cited more than 116500 times. He is listed in the annual Highly Cited Researchers 2022, 2023 and 2024 lists from Clarivate (responsible for the ISI Web of Science). This annual list identifies the top 6600 World researchers who demonstrated significant influence in their chosen field or fields through the publication of multiple highly cited papers during the last decade. Their names are drawn from the publications that rank in the top 1% by citations for field and publication year in the Web of Science citation index. He has been awarded many important international prizes, including among several others different innovation awards, the Jean Leray, George Winter and Klaas de Groot Awards (ESB), the Clemson Award for contributions to the literature Award (SFB), the TERMIS-EU contributions to the literature Award and the TERMIS-EU Career Achievement Award, the UNESCO- International Life Sciences Award, the IET A. F. Harvey Engineering Research Prize and the Chandra Sharma Award (India Society for Biomaterials). He is a member of the National Academy of Engineering (USA), Fellow of Biomaterials Science and Engineering (FBSE), Fellow of Tissue Engineering and Regenerative Medicine (FTERM). He was the chair of the FTERM College of Fellows (2019-2021) and is presently (since 2020) the Chair of the Steering Committee of the International College of Fellows of FBSE. He was awarded 2 honouris causa degrees. He is/has been the PI of projects with a budget totalizing more than 140 MEuros of which around 65 MEuros are U. Minho funding.



Prof. Lino Ferreira

Plenary Lecture: Drug Delivery Systems for Tissue Regeneration and to Reverse Ageing

Faculty of Medicine

Pólo das Ciências da Saúde, Unidade Central

Azinhaga de Santa Comba

Center for Neurosciences and Cell Biology

University of Coimbra, Portugal



Lino Ferreira (LF) BSc, Ph.D. (Portuguese, M, 53 years old) is a Coordinator Researcher (equiv. to Full Professor) at the Faculty of Medicine, University of Coimbra and Vice-Director of the PT Government Associate Laboratory CIBB, University of Coimbra (Portugal). He is the associate editor of Biomaterials Science Journal (RSC), the founder of two technology-based companies, and the founder and current Director of the Collaborative Laboratory Colab4Ageing that currently integrates 6 associates (companies, academia, and innovation hubs). A key focus of his bioengineering laboratory is to develop platform technologies in the

areas of biomaterials, drug delivery, and cell therapies to address unmet medical needs. The lab aims to investigate age-related diseases, particularly the ones related to the cardiovascular system, and to develop pharmacological interventions (including drug delivery systems) to attenuate the effects of aging. Lino Ferreira has been the ERA Chair holder in ageing at the UC since 2016 after a successful application to the European Widening program. He was the coordinator of a Twinning project in cell senescence called “Research for healthy ageing- RESETAgeing” (H2020-Twinn-2019; duration: 2021-2024) and he is now the coordinator of a pathfinder open project entitled “REGENERAR” (Ref: 101129812). His team is the first to be housed in a research infrastructure dedicated to ageing called MIA-Portugal, the first in South Europe. In the last 10 years, Lino Ferreira’s lab has made significant contributions at the interface of engineering with biology, in particular, in the development of tissue models for screening and aging modeling, in the evaluation of anti-senescence therapies in the context of aging and age-related diseases, and advanced nanoformulations for medical applications. As a result of his proficiency, he has published more than 170 scientific contributions in scientific journals with the referee and filled more than 25 International patents. He has an h-index of 63 and received so far ~ 15,500 citations. He has successfully supervised 27 PhD students and 26 post-docs. He was the recipient of numerous awards/prizes including the Crioestaminal prize (2008), the ERC consolidator grant (2012), the FCT Investigator award (2013 and 2015), the Bluepharma Innovation award (2016), ERA Chair award (2016), among others. He was President of the Portuguese Society of Stem Cells and Cell Therapies (2013-2015). Members of his group have founded companies (e.g. Tissium, Exogenus Therapeutics, Matera, Curemat) that attracted more than \$250M in venture capital. He has been listed in the World TOP2% (Career) most cited researchers since 2020.



Prof. Joanna Natorska

Plenary Lecture: Immunothrombosis and Other Prothrombotic Mechanisms Involved in Biocompatibility Failures –
Methods of Assessment

Department of Thromboembolic Disorders

Institute of Cardiology

Jagiellonian University Medical College

Kraków

St. John Paul II Hospital

Kraków, Poland



Joanna Natorska is the Professor of medical science. She obtained her PhD in 2006, her habilitation in medical sciences in 2017, and the title of professor in 2024. Since 2014, she has been the head of the laboratory at the Cracow Center for Medical Research and Technology. She is the recipient of three scientific grants obtained under the OPUS competition of the National Science Center and other smaller research grants within the Priority Research Areas (qLife). She has supervised numerous master's and doctoral theses.

Her scientific achievements include over 130 research papers published in peer-reviewed international journals, including prestigious medical journals such as *Diabetologia*, *Stroke*, and the *Journal of Thrombosis and Haemostasis* and participation in numerous international scientific conferences. The main scientific interests of Joanna Natorska include: (1) the pathomechanisms of aortic stenosis development and progression, (2) in vitro studies aimed at understanding the molecular mechanisms of cellular interactions related to the activation of aortic valve interstitial cells (VICs), and (3) the impact of genetic and environmental factors on the phenotype of the fibrin network, i.e., clot permeability and its susceptibility to enzymatic degradation in patients at increased risk of thromboembolic incidents.



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That was a team effort!



Support team

Konrad Kwiecień
Kamila Walczak
Anna Kusibab
Zuzanna Pawlak-Likus
Jonasz Czajkowski
Paulina Armatys

Thank you!