



Summary of the 28th Annual Conference

Dear Colleagues and Friends,

We are extremely grateful for your presence at the 28th Annual Conference 'Biomaterials in Medicine and Veterinary Medicine.

During the Conference, we had a pleasure to listen to 3 outstanding Plenary Lectures delivered by Prof. Emmanuel Pauthe, Prof. Wojciech Świązkowski, and Prof. Jonathan Massera, and even a recorded Keynote Lecture of Prof. Thomas J. Webster who was unfortunately caught up in India and could not join us in person. There were also 26 oral presentations, 68 poster presentations and 13 Rapid Fire presentations, part of the Best Poster Competition. We have all learned a lot and enjoyed high level of scientific discussions.

We were truly privileged to have all of you at the 28th 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

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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 98 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 (45 mins long), 1 keynote lecture, 26 oral presentations (15 mins each) and 68 poster presentations including 13 rapid fire presentations within the Best Poster Competition.



Prof. Emmanuel PAUTHE

Plenary Lecture: **Proactive biomaterials: biomimetic interfacial properties and advanced delivery systems**

Biomaterials for Health Group

Department of Biology

University of Cergy-Pontoise, France



Emmanuel Pauthe, Ph.D. graduated from the University of Technology of Compiègne, France. He has been visiting Professor at Yale University, USA, in the Department of Chemical Engineering from 2009 to 2011 and Adjunct Professor, in the Department of Biomaterials at Laval University, Canada, from 2011 to 2014. He is currently Professor in Biochemistry and Biomaterial Science at the University of Cergy-Pontoise (UCP), France, where he leads a research group in Biomaterial Science. He acts as Dean of the Masters and Engineering Degrees in Humanity and Sciences at UCP. His research interests focus on the structure-function relationship of matrix proteins, biopolymers and the development of innovative biomaterials: hydrogels, coatings, and thin films based-biomaterials, biomimetic hybrid materials for tissue engineering and regenerative medicine. Prof. Pauthe is an author of more than 45 publications in

international peer-reviewed journals, 3 book chapters, more than 100 presentations in professional meetings, and inventor of 1 patent on delivery system based-hydrogel composite scaffold for enhancing stem cells survival. He is a co-organizer of numerous national and international conferences and has been general chairman of the 1st International Symposium on Biomaterial and Smart Systems, 2014. He is an elected member of the Advisory Board of the French Society for Biomaterials.

Prof. Wojciech ŚWIĘSZKOWSKI

Plenary Lecture: **3D biofabrication for tissue engineering**

Biomaterials Group, Materials Design Division

Faculty of Materials Science and Engineering

Warsaw University of Technology, Poland



Wojciech Świąszkowski, Ph.D. Habil., is a Professor in the Materials Design Division, Faculty of Materials Science and Engineering, Warsaw University of Technology (WUT), Poland. He is the Director of the MSE Materials Design Division and a Faculty Coordinator in the Erasmus Program. He has earned a PhD in Biomechanics and a Habilitation in Materials Science and Engineering at WUT. He was a Postdoctoral Researcher for 4-years at the Delft University of Technology (Delft, The Netherlands). He has been a Visiting Professor at several universities, including Harvard University, NIMS Japan, Università Politecnica delle Marche, and TU Wien. His research is focused on biofabrication

bioprinting, biomaterials for implants and tissue engineering, computational modeling, and the characterization of biomaterials. He leads the BioMaterials Group (9 post doctorate and 11 PhD students) at WUT. He has been the leader and project manager of 13 international and 18 national projects with total funding > 10M EURO. He has been the doctoral advisor for 7 students who have earned the PhD. He has authored more than 120 publications, 16 book chapters, and 11 patents. He delivered 25 invited talks at international conferences. He has received several awards including: 1st Prize from the Prime Minister of Poland (2001), Prizes from the Rector of WUT for scientific achievement (2011, 2012, 2013, 2014), and the Mieczysław Wolfke's Prize of Warsaw University of Technology for scientific achievements (2017)".



Prof. Jonathan MASSERA

Plenary Lecture: Bioactive glasses: benefits and drawbacks for use in bone tissue engineering

Bioceramics, Bioglasses and Biocomposites Research Group

Biomaterials and Tissue Engineering

Faculty of Medicine and Health Technology, Tampere University, Finland



Jonathan Massera, Ph.D. graduated a dual Master of Science degree, in Materials Science and Engineering from Polytech' Montpellier (France) and Politecnico di Torino (Italy), in 2006. He then did his PhD at Clemson University, South Carolina, USA on "Nucleation and Growth of Tellurite based glasses/fibers for mid-IR applications" which he graduate in Dec. 2009. Successively, he performed a one year post-doc position at Åbo Akademi, Turku, Finland where he was first introduced to bioactive glasses. He then received the Post-Doctoral Research Fellow grant from the Academy of Finland where he started his own research activity. Finally, he started his tenure as Assistant Professor in 2014, at Tampere University and was appointed Associate Professor in 2017. Since 2017, he is the head of the International MSc degree in Biomedical Sciences and Engineering. His research group focuses on Bioceramics, Bioglasses

and Biocomposites for hard and soft tissue applications. His research aims at unraveling the ceramics, glasses and composites composition/bioactivity relationship and their impact on osteogenic properties. He published over 60 peer-reviewed articles and presented at over 80 international conferences.

Prof. Thomas J. WEBSTER

Plenary Lecture: Goodbye hospitals: hello implantable sensors

Art Zafiropoulo Chair and Professor

Department of Chemical Engineering

Northeastern University

Boston, MA 02115 USA



Thomas J. Webster, Ph.D. (H index: 89) degrees are in chemical eng from the University of Pittsburgh (B.S., 1995) and in biomedical engineering from Rensselaer Polytechnic Institute (M.S., 1997; Ph.D., 2000). He was appointed Department Chair of Chemical Engineering at Northeastern University in 2012 in which the Department broke the record for the fastest increase in U.S. News and World Report ranking over a five year period. Prof. Webster has graduated/supervised over 189 visiting faculty, clinical fellows, post-doctoral students, and thesis completing B.S. , M.S., and Ph.D. students. To date, his lab group has generated over 13 textbooks, 68 book chapters, 276 invited presentations, at least 583 peer-reviewed literature articles and/or conference proceedings, at least 867 conference presentations, and 42 provisional or full patents. He is the founding editor-in-chief of the International Journal of Nanomedicine (pioneering the open-access format).

Prof. Webster currently directs or co-directs several centers in the area of biomaterials: The Center for Natural and Tropical Biomaterials (Medellin, Colombia), The Center for Pico and Nanomedicine (Wenzhou China), and The International Materials Research Center (Soochow, China). Prof. Webster has received numerous honors including but not limited to: 2012, Fellow, American Institute for Medical and Biological Engineering (AIMBE, representing the top 2% of all medical and biological engineers); 2013, Fellow, Biomedical Engineering Society; 2015, Wenzhou 580 Award; 2015, Zhejiang 1000 Talent Program; 2016, International College of Fellows, Biomaterials Science and Engineering; 2016, Acta Biomaterialia Silver Award; 2018, Fellow, National Academy of Inventors; 2019, Overseas Fellow, Royal Society of Medicine (UK); and 2019, Fellow, International Journal of Nanomedicine. He also served as the President of the U.S. Society For Biomaterials.



Regional Dinner

Cottage bar „Nad potokiem”

Thursday, 10 October 19:00-01:00



Folk music, delicious food and drinks, exceptional atmosphere.

Conference Dinner

Friday, 11 October 19:00-01:00





Excursion

Tree-top observation tower

Krynica-Zdrój

Saturday, 12 October 08:30-13:00

