



Wrocław University  
of Science and Technology



Department of Biomedical Engineering  
Faculty of Fundamental Problems of Technology

**EPMA WORLD 2021 CONGRESS**  
September 20th – 23rd , Wrocław (POLAND)

## CONGRESS PROGRAMME

### 1<sup>st</sup> Congress day, September 20<sup>th</sup>, Monday

| EVENT                          | Welcome addresses                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | TIME                    |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>OPENING CEREMONY</b>        | <ul style="list-style-type: none"> <li>✓ <b>Professor Arkadiusz Wójs</b>, Rector of the Wrocław University of Science and Technology, Poland</li> <li>✓ <b>Dr. Vincenzo Costigliola</b>, EPMA President, Brussels, Belgium</li> <li>✓ <b>Professor Paweł Machnikowski</b>, Dean of the Faculty of Fundamental Problems of Technology, Poland</li> <li>✓ <b>Professor Piotr Ponikowski, M.D.</b> Rector of the Wrocław Medical University</li> <li>✓ <b>Professor Andrzej Rokita</b> Rector of the Wrocław University of Health and Sport Sciences</li> <li>✓ <b>Professor Adam Liebert</b> Director of the Nalecz Institute of Biocybernetics and Biomedical Engineering Polish Academy of Sciences</li> <li>✓ <b>Professor Wojciech Witkiewicz, M.D. D.hc.</b> Director of the Province Specialistic Hospital, Center for Research and Development</li> <li>✓ <b>Dr. Paweł Wróblewski, M.D.</b> President of Lower Silesian Chamber of Physicians</li> <li>✓ <b>Professor Halina Podbielska</b>, Head of the Congress Committee, Wrocław University of Science and Technology, Poland</li> <li>✓ <b>Professor Olga Golubnitschaja</b>, EPMA Secretary-General, University of Bonn, Germany</li> </ul> | 01:00 pm – 02:30 pm CET |
| <b>EPMA AWARDS 2021</b>        | Presentations of the Awarded Scientists                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 02:30 pm – 03:30 pm CET |
| <b>EPMA General Assembly</b>   | EPMA Members                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 04:00 pm – 05:30 pm CET |
| <b>EPMA J. Editorial Board</b> | EPMA Journal Editors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 06:00 pm – 07:00 pm CET |

## 2nd Congress day, September 21<sup>st</sup>, Tuesday

Session Chair: Igor Buzalewicz, Wrocław University of Science and Technology

| EVENT                          | SPEAKERS                                                                                                                       | TIME                    |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Plenary Lectures & Discussions | ✓ <b>All around healthy eye</b><br><b>Carl Erb</b> , Private Institute of Applied Ophthalmology, Berlin, Germany               | 10:00 am – 10:45 am CET |
|                                | ✓ <b>All around neurological disorders</b><br><b>Paul Friedemann</b> , NeuroCure, Charité University Medicine, Berlin, Germany | 11:00 am – 11:45 am CET |

### Session Chairs:

Babak Baban (USA), Halina Podbielska (Poland), Jiri Polivka Jr. (Czech Republic), Niva Shapira (Israel), Elvar Theodorsson (Sweden),

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| Workshop of Young Professionals in PPPM | <b>Presentations:</b><br>✓ <b>Colin Birkenbihl</b> , Fraunhofer Institute, Bonn, Germany: <i>Identifying Alzheimer's disease progression subtypes and enabling personalized stratification: A step towards PPPM for neurodegenerative diseases</i><br>✓ <b>Kamila Stibrana</b> , Department of Neurology, Faculty of Medicine in Pilsen, Charles University and University Hospital Pilsen, Pilsen, Czech Republic: <i>Socio-economic consequences of young stroke – target for PPPM strategies</i><br>✓ <b>Aleksandra Kaczorowska</b> , Wrocław University of Science and Technology, Poland: <i>A novel method for detection of chemoresistant leukemia cells: a chance for personalized therapy for patients</i><br>✓ <b>Irina Gachkova</b> , Stravropol State Medical University, Russia: <i>The daily profile of blood pressure in young women and the metabolic phenotype of their obesity</i><br>✓ <b>Sergei Barannikov</b> , Voronezh State Medical University n.a. N.N. Burdenko, Voronezh, Russia: <i>Preventive personalized technologies of cytoprotective treatment of erosive and ulcerative gastroduodenal lesions</i><br>✓ <b>Jessica Debattista</b> , University of Malta, Malta: <i>Optimising a bead-based assay to quantify mRNA in tumour-derived exosomes</i> | 01:00 pm – 03:00 pm CET |
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**THE END OF THE SESSION**

### 3rd Congress day, September 22<sup>nd</sup>, Wednesday

#### Session Chair: Agnieszka Ulatowska-Jarża, Wrocław University of Science and Technology

| EVENT                          | SPEAKERS                                                                                                                              | TIME                    |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Plenary Lectures & Discussions | ✓ <b>All around stress</b><br><b>Alexander Karabatsiak</b> , Institute of Psychology,<br>University of Innsbruck, Austria             | 10:00 am – 10:45 am CET |
|                                | ✓ <b>All around cancer</b><br><b>Sang Jin Lee</b> , National Cancer Center, Goyang-si;<br>Sungkyunkwan University, Seoul, South Korea | 10:45 am – 11:30 am CET |

#### Session Chair: Agnieszka Uryga, Wrocław University of Science and Technology

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| Invited Lectures | ✓ <b>Holger Fröhlich</b> , Fraunhofer Institute, Bonn, Germany: <i>An Explainable Multi-Modal Neural Network Architecture for Predicting Epilepsy Comorbidities Based on Administrative Claims Data</i>                                                                                                                                          | 11:30 am – 01:00 pm CET |
|                  | ✓ <b>Ivica Smokovski</b> , University Clinic of Endocrinology, Faculty of Medical Sciences, University Goce Delcev Stip, North Macedonia: <i>Critical Role of National eHealth System as a Telemedicine Platform for Preventive, Predictive and Personalized (3P) Diabetes Care during the COVID-19 pandemics in Republic of North Macedonia</i> |                         |
|                  | ✓ <b>Christine Nardini</b> , CNR IAC, Italy: <i>Eliciting wound healing in the control of RA: preliminary results from a pilot clinical trial</i>                                                                                                                                                                                                |                         |

#### Session Chair: Marta Kopaczyńska, Wrocław University of Science and Technology

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| Invited Lectures | ✓ <b>Igor Buzalewicz</b> , Wrocław University of Science and Technology, Poland: <i>Novel optical approach in label-free phenotyping of biological objects</i>       | 02:00 pm – 05:30 pm CET |
|                  | ✓ <b>Lotfi Chaari</b> , University of Toulouse-INP, France: <i>IT &amp; AI for monitoring in PPM</i>                                                                 |                         |
|                  | ✓ <b>Igor Martuliak</b> , F.D. Roosevelt University Hospital, Banská Bystrica, Slovak Republic: <i>Prediction and personalised prevention of pain chronification</i> |                         |
|                  | ✓ <b>Maria Evseviev</b> , Stavropol State Medical University, Russian Federation: <i>Premature</i>                                                                   |                         |

*vascular aging and arterial hypertension in young people. The place of hereditary connective tissue disorders*

- ✓ **Agnieszka Uryga**, Wrocław University of Science and Technology, Poland: *The relationship between cerebral autoregulation and baroreflex in patients with cerebral vasospasm after aneurysmal subarachnoid haemorrhage*
- ✓ **Ievgen Nastenکو**, National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine: *The Intelligent Analysis Possibilities of Computed Tomography Data for Covid-19 Pneumonia and Other Systemic Lung Pathology*
- ✓ **Joanna Bauer**, Wrocław University of Science and Technology, Poland: *Towards personalized cancer treatment*
- ✓ **Vadim Tachalov**, City Periodontal Center "PAKS", St. Petersburg, Russian Federation: *Making a complex dental care tailored to the person: Population health in focus of predictive, preventive and personalised (3P) medical approach*

**THE END OF THE SESSION**

## 4<sup>th</sup> Congress day, September 23<sup>rd</sup>, Thursday

Session Chair: Joanna Bauer, Wrocław University of Science and Technology

| EVENT                                     | SPEAKERS                                                                                                                                           | TIME                    |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <b>Plenary Lectures &amp; Discussions</b> | ✓ <i>EPMA and Global Surgery: Materials and Methods to Achieve the United Nations Healthcare-Related Sustainable Development Goals for 2030</i>    | 10:00 am – 10:40 am CET |
|                                           | <b>Russel Andrews</b> , Nanotechnology & Smart Systems Groups, NASA Ames, USA                                                                      | 10:45 am – 11:25 am CET |
|                                           | ✓ <i>PPPM lessons from the COVID-19 pandemics</i>                                                                                                  | 11:30 am – 12:10 am CET |
|                                           | <b>Babak Baban</b> , School of Medicine, Augusta University, Georgia, USA                                                                          |                         |
|                                           | ✓ <i>Post – COVID-19 Rehabilitation</i>                                                                                                            | 12:15 am – 01:00 pm CET |
|                                           | <b>Karolina Sieroń</b> , School of Health Sciences in Katowice, Medical University of Silesia in Katowice, Department of Physical Medicine, Poland |                         |
|                                           | ✓ <i>Multi-omics in cancer research and management - Focus on PPPM</i>                                                                             |                         |
|                                           | <b>Xianquan Zhan</b> , Medical Science and Technology Innovation Center, Shandong First Medical University Jinan, Shandong, China                  |                         |

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| <b>Poster Session Analysis</b><br><i>(list of posters is presented <a href="#">separately</a>)</i> | <b>Chairs:</b><br><b>Suzanne Hagan</b> (UK), <b>Marko Kapalla</b> , (Slovakia),<br><b>Yoshihiro Kokubo</b> (Japan)                                                                                          | 02:00 pm – 03:00 pm CET |
| <b>Jury panel presentation: towards Workshop of Young Professionals in PPPM</b>                    | <b>Jury Panel Members:</b><br><b>Babak Baban</b> (USA), <b>Halina Podbielska</b> (Poland),<br><b>Jiri Polivka Jr.</b> (Czech Republic),<br><b>Niva Shapira</b> (Israel), <b>Elvar Theodorsson</b> (Sweden), | 03:00 pm – 04:00 pm CET |
| <b>Concluding Presentation</b>                                                                     | <i>PPPM in focus of research with multi-professional expertise</i><br><b>Dominic Desiderio</b> , USA                                                                                                        | 04:00 pm – 04:45 pm CET |

**EPMA World Congress 2021, concluding remarks**

Olga Golubnitschaja, Halina Podbielska, Vincenzo Costigliola

**THE END OF THE CONGRESS**

## LIST OF POSTERS

1. Kunin, A.; Esaulenko, I.; Ippolitov, Yu.; Oleinik, O.; Kupets, T.; Matelo, S.; Gavrish, A.; Salimov, F.; Cenk Haytac, M.; Golubnitschaja, O. *Paradigm shift from reactive treatments to predictive approach, targeted prevention and personalisation of medical services in dentistry: Multi-professional view*
2. Hagan, Suzanne; Collier, Andrew; Shu, Xinhua, Byambajav, Mungunshur. *Inflammatory Cytokine Levels in tear fluids of Type 2 Diabetes-Related Dry Eye*
3. Gerard Marshall, Raj; Jayanthi, Mathaiyan; Mukta, Wyawahare; Rekha, Priyadarshini. *Effect of SLC47A1 and SLC47A2 gene polymorphisms on the glycemic response to metformin in type 2 diabetes mellitus patients*
4. Bashkirtsev, Oleksii; Sahan, Vitalii; Zimba, Olena. *ECG as a tool for estimating biological age*
5. Kmeťová Sivoňová, Monika; Híveš, Márk; Jurečeková, Jana; Dušenka, Róbert; Evin, Daniel; Drobková, Henrieta; Kliment, Ján. *Prognostic significance of MDM2 expression in prostate cancer*
6. Jurečeková, Jana; Kmeťová Sivoňová, Monika; Blahušiak Drobková, Henrieta; Dušenka, Róbert; Híveš, Márk; Evin, Daniel; Kliment, Ján; Dobrota, Dušan. *Estrogen receptor alpha promoter methylation status in prostate cancer*
7. Mrázová, Barbara; Kapalla, Marko; Marko, Ľubomír; Lapuníková, Miriam; Baláž, Vladimír; Martuliak, Igor; Flašková, Martina; Skladaný, Ľubomír; Patarák, Michal; Liška, Dávid; Tosegiová, Ľubomíra; Ďurajová, Viktória. *Prehabilitation as an integral procedure in predictive, preventive and personalized medicine and modern and effective healthcare*
8. Shashmurina, A.; Nikolaev, A.; Kunin, A.; Monakhova, A. *Prevention and prediction of the development of postoperative sensitivity in the treatment of abfractional lesions of the teeth*
9. Gavrish, A.V.; Ippolitov, Yu.A.; Kovalenko, M.E.; Roshchupkina, A.V. *A functional approach to periodontal research is a bridge between individual prevention and personalized orthodontics*
10. Ippolitov, Yu.A.; Goloshchapov, D.L.; Ippolitov, I.Yu.; K.A. Nikitkov; Seredin, P.V. *The use of the method of exogenous personified prevention of caries based on the molecular composition of the dental biofilm*
11. Kunin, A.; Esaulenko, I.; Kharitonov, D.; Kupets, T.; Gavrish, A.; Sushchenko, A. *Personalized treatment and prevention of dry mouth*
12. Ippolitov, Yu.A.; Goloshchapov, D.L.; Ippolitov, I.Yu.; K.A. Nikitkov; Seredin, P.V. *Preventive diagnosis of fissure enamel caries using Raman microspectroscopy*
13. Belenova, I.A.; Kunin, A.A.; Bekzhanova, O.E.; Solovyova, A.L.; Kunin, V.A. *Prevention and prediction of the spread of COVID 19 by detecting early dental manifestations in infected patients*
14. Ippolitov, Yu.A.; Kovalenko, M.E.; Bondareva, E.N.; Zolotareva, E.Yu. *Correlation dependence of the personalized assessment of the biopotentials of the masticatory muscles by electromyography in adolescents with high and medium caries resistance of hard dental tissues*
15. Kunin, A.; Sushchenko, A.; Matelo, S.; Ippolitov, Yu.; Kunin, D. *Elimination of primary preclinical demineralization of enamel as a method of preventing caries of intact teeth*
16. Cherednikov, E.F.; Kunin, A.A.; Barannikov, S.V.; Yuzevovich, I.S.; Banin, I.N. *Preventive personalized technologies of cytoprotective treatment of erosive and ulcerative gastroduodenal lesions*
17. Oleinik, O.I.; Kunin, A.A.; Kubyshkina, K.P.; Oleinik, E.A. *New aspects of vector therapy in the secondary prevention of chronic periodontitis*
18. Belenova, I.A.; Bekzhanova, O.E.; Oleinik, O.I.; Komarova, Yu.N. *Return youth to the periodont prediction and personalized prevention in periodontology*
19. Belenova, I.A.; Bekzhanova O.E.; Azarova O.A.; Andreeva E.A. *Rehabilitation of patients after open curettage of periodontal pocket as a method of preventive, predictive and personalized dentistry*

20. Serikova, O.V.; Shumilovich, B.R.; Kunin, D.A.; Kunin, V.A. *Personification of dental status of patients during diagnosis, treatment and prevention of recurrences of erosive-ulcer lichen planus*
21. Shumilovich, B.R.; Esaulenko, I.E.; Kunin, A.A.; Kunin, D.A., Burykh, R.I. *Modern approach to individual prevention of recurrent caries in persons with decompensated form of cariosis*
22. Orekhova, L.Yu.; Loboda, E.S.; Grinenko, E.V.; Neisberg, D.M.; Iamanidze, N.A. *Analysis of changes in periodontal vascular hemodynamics in patients with type 1 DM after conservative periodontal therapy as a method of predictive, preventive and personalised (3P) medical approach*
23. Mokina, Natalia; Mokin, Egor. *Comprehensive predictive assessment of lung health status in persons of young age*
24. Dębiec-Bąk, Agnieszka; Skrzek, Anna; Podbielska, Halina; Golubnitschaja, Olga; Stefańska, Małgorzata. *Analysis of superficial temperature distribution changes after physical activity in school children for personalization of general fitness exercises*
25. Moiseeva, Natalia; Kharitonov, Dmitry; Kharitonov, Ilya. *Objectives of the concept for personalized treatment and prevention of alveolar process defects with the use of osteoplastic materials*
26. Sergeeva, Oksana; Evseyeva, Maria; Prokhorenko-Kolomoitseva, Irina; Aksenenko, Victor; Rogovaja, Anna; Gachkova, Irina; Golubnitschaja, Olga. *Flammer syndrome and pregnancy from the standpoint of the connective tissue status of mothers*
27. Bubnov, Rostyslav; Golubnitschaja, Olga. *Visceral fat measurement is crucial for stratification of low weight individuals towards metabolic abnormalities and disease predisposition*
28. Skladaný, Ľubomír; Koller, Tomas; Messingerová, Lucia; Bystrianska, Natalia; Bírošová, Lucia; Jancekova, Daniela; Vnencakova, Janka; Šoltys, Katarína; Kukla, Michal; Lichvár, Michal; Olejníková, Petra. *The first-level gut microbiome analysis in severe alcoholic hepatitis within the framework of predictive, preventive, and personalized medicine*