

1st PLENARY SESSION
Analytical Chemistry & Nanotechnology 1

1 Zuzanna Bojarska (9:30 a.m. – 9:45 a.m.)

Highly efficient hybrid nanostructures based on MoS₂ for hydrogen evolution

2 Rafał Dunał (9:45 a.m. – 10:00 a.m.)

Thin layers of transition metal dichalcogenides for the use in resistive switching

3 Aleksandra Nadolska (10:00 a.m. – 10:15 a.m.)

Modification of MoO_{3-x} monolayers by resistive switching processes

4 Barbara Niemiec (10:15 a.m. – 10:30 a.m.)

Application of carbon nanomaterials in the solid-contact ion selective electrodes.

5 Jacek Sikorski (10:30 a.m. – 10:45 a.m.)

How to examine the changes of superparamagnetic nanoparticles in proteinaceous media?

6 Anna Tekieli (10:45 a.m. – 11:00 a.m.)

Development of separation method of natural compounds by high-speed countercurrent chromatography

7 Anna Wróblewska (11:00 a.m. – 11:15 a.m.)

The investigation of liposomes as organic nanocarriers for anticancer drugs targeted delivery

2nd PLENARY SESSION
Mathematical Modeling, Simulations & Optimization

1 Karol Baran (12:10 a.m. – 12:25 a.m.)

Fractional Free Volume as a guide feature in designing ionic liquids for Carbon Capture and Storage

2 Krzysztof Kolankowski (12:25 a.m. – 12:40 a.m.)

Mathematically described 1,4-butanediamine addition to poly(glycerol butenodioate)

3 Nina Borzęcka (12:40 a.m. – 12:55 a.m.)

Cellular automata modeling of silica aerogel condensation kinetics

4 Monika Jałowiecka (12:55 a.m. – 1:10 p.m.)

Computational Fluid Dynamics modelling and experimental research on the development of fuel cell channel design

5 Alexandru-Constantin Bozonc (1:10 p.m. – 1:25 p.m.)

Modeling of CO₂ Absorption Process using Aqueous Ammonia Solution

6 Radosław Krzosa (1:25 p.m. – 1:40 p.m.)

Modelling and experimental study of titanium dioxide particles breaking in ball mill

7 Mariusz Tyrański (1:40 p.m. – 1:55 p.m.)

Computational fluid dynamics of influence on process parameters and geometry of catalyst wire on the ammonia oxidation process

8 Michał Wrzecionek (1:55 p.m. – 2:10 p.m.)

Developing and optimization of PGSu synthesis with the use of Design of Experiment methods

3rd PLENARY SESSION
Bioengineering, Biotechnology, Biomedical Engineering 1

1 Aleksandra Bandzerewicz (9:30 a.m. – 9:45 a.m.)

Synthesis and characterisation of poly(1,3-propanediol citrate)

2 Agnieszka Anderson (9:45 a.m. – 10:00 a.m.)

Investigation of the influence of liquid phase viscosity on the mixing time in a rocking single-use bioreactor

3 Adam Grzywaczyk (10:00 a.m. – 10:15 a.m.)

Assessment of saponin content and properties in the extract obtained from *Trigonella foenum L.*

4 Piotr Cendrowski (10:15 a.m. – 10:30 a.m.)

Comparison of supercritical fluid extraction and liquid extraction of chemical compounds from *Cannabis sativa L.*

5 Natalia Burlaga (10:30 a.m. – 10:45 a.m.)

Analysis of the influence of additives used for probiotic production on LAB properties

6 Karina Dyrda (10:45 a.m. – 11:00 a.m.)

Simulation of blood flow in a microchannel with a morphologically complex surface

7 Augusta Ivaškė (11:00 a.m. – 11:15 a.m.)

Impact of trace elements in Portland cement on the bacterial viability in biological concrete

8 Krystian Jędrzejczak (11:15 a.m. – 11:30 a.m.)

CFD simulation of blood flow through arteries with atherosclerosis

4th PLENARY SESSION
Materials Engineering

1 Izabela Barwińska (11:45 a.m. – 12:00 a.m.)

Suitability of Laser Engineered Net Shaping technology for Inconel 625 based parts repair process

2 Paweł Grzybek (12:00 a.m. – 12:15 a.m.)

Robust and High Selective Chitosan Asymmetric Membranes: Relation Between Microporous Structure and Pervaporative Efficiency in Ethanol Dehydration

3 Łukasz Jakubski (12:15 a.m. – 12:30 a.m.)

Single-molecule magnets as novel filler with superior dispersibility - application of tetranuclear iron (III) molecular magnet [Fe₄(acac)₆(Br-mp)₂] for pervaporative dehydration of ethanol

4 Agata Kaczmarek (12:30 a.m. – 12:45 a.m.)

Study of the process of producing copper oxides nanoparticles by laser ablation in a liquid

5 Diego Fiorentini (12:45 a.m. – 1:00 p.m.)

Development of a polymeric diaphragm for Alkaline Water Electrolysis

6 Martyna Nizioł (1:00 p.m. – 1:15 p.m.)

3D printing of thermosensitive hydrogel with antimicrobial properties.

7 Aleksandra Pisarek (1:15 p.m. – 1:30 p.m.)

Phase separation in MTMS-based sol-gel system and secondary particles' dispersity

8 Szymon Salagierski (1:30 p.m. – 1:45 p.m.)

Functionalized polysaccharides as cross-linking agents of hydrogel materials based on chitosan

9 Karina Warmuz (1:45 p.m. – 2:00 p.m.)

Application of components with different expansion coefficients in the aspect to thermomechanical properties and microstructure evolution of no-cement and ultra-low cement refractory castables

9:30 a.m., Wednesday, 6th April

5th PLENARY SESSION
Bioengineering, Biotechnology, Biomedical Engineering 2

1 Małgorzata Kinowska (9:30 a.m. – 9:45 a.m.)

Substances of natural origin as viscosity modifiers - testing the properties of a potentially therapeutic aerosol

2 Anna Kołakowska (9:45 a.m. – 10:00 a.m.)

Bioactive substitute for cancellous bone

3 Sofiia Kiiaieva (10:00 a.m. – 10:15 a.m.)

Research into kinetic regularities the brewers grains filtration drying

4 Patryk Więckowicz (10:15 a.m. – 10:30 a.m.)

Metabolites production and proliferation kinetics of *Rindera graeca* transgenic roots immobilized on aerogel-based constructs.

5 Zuzanna Iwoń (10:30 a.m. – 10:45 a.m.)

Study of the application of polymer nanofibers in a cardiac cellular model in vitro

11:00 a.m., Wednesday, 6th April

6th PLENARY SESSION

Kinetics & Thermodynamics Process Equipment & Environmental Protection & Other

1 Marcin Gerlich (11:00 a.m. – 11:15 a.m.)

Combustion process analysis of the Sb/KMnO₄ composition

2 Edyta Rekiel (11:15 a.m. – 11:30 a.m.)

Biosurfactants as a way to protect the environment

3 Janusz Kopytowski (11:30 a.m. – 11:45 a.m.)

Application of the reactive tracer method to study chaotic mixing of liquids with equal and different viscosities in laminar flow regime

4 Mikołaj Suwak (11:45 a.m. – 12:00 a.m.)

An overview of the utilization of the Ventilation Air Methane: opportunities and challenges.

5 Zsuzsanna Fehér (12:00 a.m. – 12:15 a.m.)

Application of heterogeneous organocatalysts in PET glycolysis

2:30 p.m., Wednesday, 6th April

7th PLENARY SESSION
Other

1 Mateusz Kamiński (2:30 p.m. – 2:45 p.m.)

Filtration of solid and liquid aerosols and their mixtures on non-woven filters

2 Jakub Katerla (2:45 p.m. – 3:00 p.m.)

Development of a New Correction Factor for Gas Holdup Prediction Model in Various Bubble Columns Operating in Homogeneous Regime

3 Dora Richter (3:00 p.m. – 3:15 p.m.)

Application of transition metals combined with cinchona organocatalysts

4 David Kis (3:15 p.m. – 3:30 p.m.)

Application of proline-derived (thio)squaramide organocatalysts in asymmetric reactions

5 Roman Chyzhovych (3:30 p.m. – 3:45 p.m.)

Research of the solidfuel briquettesobtaining fromalcohol distillerystillage