

1st PLENARY SESSION
Mathematical Modeling, Simulations & Optimization

1 Paweł Grzybek (9:45 a.m. – 10:00 a.m)

Semi-empirical model of vapour transportation through alginate membranes filled with MQFP hard magnet

2 Monika Jałowiecka (10:00 a.m – 10:15 a.m)

CFD modeling of multiphase flow in direct formic acid fuel cell

3 Janusz Kopytowski (10:15 a.m. – 10:30 a.m.)

Chaotic advection in a twisted bend mixer - flow visualization and CFD study

4 Radosław Krzosa (10:30 a. m. – 10:45 a.m.)

Mathematical modeling of particle breakage in high energy industrial ball mill

5 Jakub Lewandowski (10:45 a.m. – 11:00 a.m.)

Experimental and numerical investigation of residence time distribution in a fuel cell

6 Roman Chyzhovych (11:00 a.m – 11:15 a.m)

Hydrodynamics of barley brewer's spent grain filtration drying

2nd PLENARY SESSION
Materials Engineering

1 Seyedshoja Amini (12:40 a.m. – 12:55 a.m.)

Phase-field study energy and morphology of martensite–twinned martensite interface in CuAlNi shape memory alloy

2 Ivan Danylevych (12:55 a.m. – 1:10 p.m.)

Use of used cooking oil as a modifier of road bitumen

3 Justyna Grygierek (11:10 p.m. – 1:25 p.m.)

Sol-gel synthesis of metal-ion modified preceramic polymers for DLP 3D printing

4 Justyna Jakubska (1:25 p.m. – 1:40 p.m.)

Electrospinning as an innovative method to improve the mechanical properties of eco-friendly and fully biodegradable food packaging

5 Łukasz Jakubski (1:40 p.m. – 1:55 p.m.)

Improving the efficiency of ethanol dehydration via pervaporation using magnetite and molecular magnet combination as a filler for alginate membranes - analysis of the synergistic effect

6 Katarzyna Kisiel (1:55 p.m. – 2:10 p.m.)

(Meth)acrylate-based copolymers for potential use as hydrophobic and self-healable coatings

7 Zofia Kucia (2:10 p.m. – 2:25 p.m.)

Structural analysis of polymer-derived SiCN with tuneable carbon content

8 Aleksandra Pisarek (2:25 p.m. – 2:40 p.m.)

Investigation of vulcanization and drying method influence on the mechanical properties of the VTMS-based aerogels

3rd PLENARY SESSION
Process Equipment & Environmental Protection

1 Temesgen Abeto Amibo (9:45 a.m. – 10:00 a.m)

The effect of 1,4-butanediol on the efficiency of CO₂ absorption and inhibition of NH₃ escape during mineral carbonation of gypsum

2 Klaudia Czerwińska (10:00 a.m. – 10:15 a.m)

Struvite precipitation as a method of liquid preparation before purification of post-processing liquid derived from hydrothermal carbonization of sewage sludge using membrane techniques

3 Afaq Hassan (10:15 a.m. – 10:30 a.m.)

Enhancing Ammonia Oxidation (AOR) through Electrochemical Polarization: NiCu-S/NF Electrocatalyst

4 Patrycja Kawalek (10:30 a.m. – 10:45 a.m.)

Antioxidant potential of fermented black chokeberry pomace

5 Adam Konopelski (10:45 a.m. – 11:00 a.m.)

Antioxidant potential of fermented black chokeberry pomace

6 Chiara Lukas (11:00 a.m. – 11:15 a.m.)

Development of a liquid-splitting system for a laboratory- scale additively manufactured dividing wall column (DWC)

4th PLENARY SESSION
Materials Engineering

1 Szymon Salagierski (1:50 p.m. – 2:05 p.m.)

The influence of strontium- and zinc-doped borate bioactive glasses on the chitosan-based injectable hydrogels

2 Katarzyna Starzak (2:05 p.m. – 2:20 p.m.)

Spectroscopic and kinetic studies of new fluorophores derived from citric acid as component in a photoinitiating systems for the obtaining the hydrogel materials in 3D printing processes

3 Karol Tutek (2:20 p.m. – 2:35 p.m.)

Rosemary - a natural way to improve the properties of polymeric material

4 Lei Wang (2:35 p.m. – 2:50 p.m.)

Inverse-opal titania films for photocatalytic activity enhancement

5 Ewelina Warmbier (2:50 p.m. – 3:05 p.m.)

Extensional flow of mixed surfactant CAPB/SDBS solutions with the addition of metal ions

6 Łukasz Wilk (3:05 p.m. – 3:20 p.m.)

Composite Ni/SiO₂ scaffolds obtained by DIW 3D printing

7 Jakub Zabrzycki (3:20 p.m. – 3:35 p.m.)

Development of new materials based on ZnO and MoS₂ for photo(electro)catalytic oxygen evolution reaction

8 Patryk Zając (3:35 p.m. – 3:50 p.m.)

Investigation of coatings based on carbon-rich SiOC glasses

5th PLENARY SESSION
Process Equipment, Environmental Protection & Other

1 Dóra Erdélyi (9:45 a.m. – 10:00 a.m.)

Synthesis and application of cinchona-based organocatalyst

2 Gergő Gémes (10:00 a.m. – 10:15 a.m.)

Development of photocatalytic systems for C-C bond formation reactions

3 Seyed Soroush Mousavi Khadem (10:15 a.m. – 10:30 a.m.)

Photocatalytic Potential of MOF-808 for photoconversion of CO₂ into valuable products

4 Zuzanna Prus (10:30 a.m. – 10:45 a.m.)

Influence of Hydrothermal Carbonization process on elimination of selected organic and inorganic compounds from sewage sludge

5 Michał Stor (10:45 a.m. – 11:00 a.m.)

Halloysite applied in various water treatment processes

6 Dennis Stucke (11:00 a.m. – 11:15 a.m.)

Reduction of heat losses in lab-scale distillation columns and its consequences for scale-up

7 Zofia Szewczyk (11:15 a.m. – 11:30 a.m.)

Experimental method of CO₂ bubble trajectories determination in direct formic acid fuel cell

8 Mateusz Zygadło (11:30 a.m. – 11:45 a.m.)

Poly(ethylene terephthalate) utilization by production of plasticizers for poly(vinyl chloride)

12:25 a.m., Wednesday, 17th April 2024

6th PLENARY SESSION
Bioengineering, Biotechnology, Biomedical Engineering & Other

1 Karina Jasińska (12:25 a.m. – 12:40 a.m.)

The upcycling of spent coffee grounds and their application in the immobilization of microbial lipases

2 Krystian Jędrzejczak (12:40 a.m. – 12:55 a.m.)

The new approach of cardiovascular diagnostic using CFD simulations

3 Dávid Kis (12:55 a.m. – 1:10 p.m.)

Sonogashira reactions in MeSesamol, a new bio-based solvent

4 Krzysztof Kolankowski (1:10 p.m. – 1:25 p.m.)

Exploring the potential of poly(glycerol itaconate) gels: innovative nonwovens for possible biomedical applications

5 Magdalena Miętus (1:25 p.m. – 1:40 p.m.)

Aspects to consider during aza-Michael addition reactions of itaconic compounds

6 Krzysztof Truchel (1:40 p.m. – 1:55 p.m.)

Simplification of the ventricular model in the CFD analysis of hemolysis in mitral paravalvular leak pathology

7 Wiktoria Wojnarowska (1:55 p.m. – 2:10 p.m.)

3D-Printed Anatomy Models: Enhancing FEA Results Visualization

8 Tuğba Yilmaz (2:10 p.m. – 2:25 p.m.)

Optimisation of the measurement procedure for the colourimetric method adaptation in wave-mixed single-use bioreactors

7th PLENARY SESSION

Kinetics, Thermodynamics, Analytical Chemistry, Nanotechnology & Other

1 Anna Łapeta (3:35 p.m. – 3:50 p.m.)

Modified organosilicon compounds as next-generation UV filters for sun protection

2 Stanisław Murgrabia (3:50 p.m. – 4:05 p.m.)

Investigations of reaction kinetics using thermogravimetric analysis integrated with gas chromatography

3 Esther Oluwabunmi Orenibi (4:05 p.m. – 4:20 p.m.)

Determination of Per- and Poly-Fluorinated compounds in the Hungarian Section of the Danube River

4 Michalina Perron (4:20 p.m. – 4:35 p.m.)

Influence of power supply on gliding discharge plasma-catalytic ammonia decomposition

5 Sara Sumbal (4:35 p.m. – 4:50 p.m.)

Synthesis of layered double hydroxides and their enhanced catalytic activity for ammonia electrooxidation reaction (AOR)

6 Agnieszka Sysło (4:50 p.m. – 5:05 p.m.)

Carbon dots as photocatalysts in photoinitiating systems for photopolymerization processes in 3D printing application

7 Wojciech Wieczorek (5:05 p.m. – 5:20 p.m.)

Synthesis and structural characterization of PDCs layers based on iron-doped silicon oxycarbide