## Plenary session 1

*Monday, 7th April 2025, 10:45 a.m. - 12:45 p.m.*

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|---|---|---|---|
| 1 | Julia | Chaładej | Numerical investigation of a ball mill operation during solid suspension fragmentation |
| 2 | Monika | Jałowiecka | Chemical engineering approach for improving fuel cell efficiency |
| 3 | Maria | Jarząbek-Karnas | Intensification of processes in PEM electrolyzers |
| 4 | Jakub | Lewandowski | Parametric comparison of manufacturing methods for bipolar plates in fuel cells |
| 5 | Stanisław | Murgrabia | Investigation of methane pyrolysis in a microwave-assisted fluidized bed reactor |
| 6 | Bartosz | Sobolewski | Investigation of microwave dehydration of hydrated salt ($MgSO_4 \cdot 7H_2O$) for its possible use as an energy carrier |
| 7 | Dora | Richter | Optimization of a photocatalytic C-alkylation reaction in a 3D printed photoreactor |
| 8 | Julia | Wilewska | Investigation of mixing intensity in plat tank using jet flow mixer |

## Plenary session 2

*Monday, 7th April 2025, 1:45 p.m. - 3:45 p.m.*

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|---|---|---|---|
| 1 | Bertold | Ecsédi | Hydration mechanism of polyimide aerogels |
| 2 | Monika | Klimek | Influence of pH and acid catalyst used on the kinetics of methyltrimetoxysilane (MTMS) hydrolysis – *in situ* FT-IR and Raman spectroscopy investigation |
| 3 | Aleksandra | Pisarek | Investigation of surfactant effect on the properties of solvent-free synthesized silica aerogels |
| 4 | Kamil | Pruchniak | Flame synthesis of composite metal oxide nanoparticles with bacteriostatic properties |
| 5 | Abhishek | Thakur | PHA biocomposites: Advancing circular economy through waste natural fillers |
| 6 | Aleksandra | Zalewska | Design and printing of potentiometric sensor platform using a 3D printer |

| Plenary session 3 | | | |
|---|---|---|---|
| *Tuesday, 8th April 2025, 11:00 a.m. - 12:15 p.m.* | | | |
| 1 | Martyna | Drużyńska | Application of nitrate-selective potentiometric sensor based on black PVC membrane |
| 2 | Paweł | Grzybek | Advanced magnetic membranes as the key for $CO_2$ recovery from the $CO_2/N_2$ mixtures |
| 3 | Jakub | Pietraszewski | Kinetic studies of new photoinitiating systems to obtain high-performance resins dedicated to 3D printing |
| 4 | Kamil | Pulit | Spectroscopic and kinetic studies of new photoinitiating systems for application in photo-curable 3D printing polymer materials with low polymerisation shrinkage. |
| 5 | Katarzyna | Starzak | Spectroscopic, kinetic and applicational analysis of novel photoinitiating systems dedicated to obtaining safe and non-toxic dental materials manufactured using 3D printing methods |

| Plenary session 4 | | | |
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| *Wednesday, 9th April 2025, 10:00 a.m. - 11:15 p.m.* | | | |
| 1 | Patrycja | Gaćkowska-Gondek | CoO as a modifier of bioactive borate glasses |
| 2 | Katarzyna | Kozubal | Borate bioactive glasses with high calcium content |
| 3 | Krzysztof | Truchel | Experimental modeling of mechanical deformation of human arteries |
| 4 | Sonia | Wardejn | Enhancing antimicrobial properties in biodegradable films: a comparative study for sustainable food packaging |
| 5 | Aleksandra | Zambrzycka | Impact of carbon dioxide nanobubbles on the growth and metabolic activity of murine fibroblasts |