

# CONFERENCE AEE 2025 PROGRAMME


**November 26 – 28, 2025**

**Ostrava**

**VSB TECHNICAL  
UNIVERSITY  
OF OSTRAVA**

  
**TECHNICAL UNIVERSITY  
OF KOŠICE**

**VSB TECHNICAL  
UNIVERSITY  
OF OSTRAVA** | **FACULTY  
OF MINING  
AND GEOLOGY**

 **Faculty of Civil  
Engineering**

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## November 26, 2025

- 14:00 – 16:00 Registration
- 16:00 – 16:10 Conference opening**  
**Opening greetings from the hosting departments**  
**prof. Ing. Hana Staňková, Ph.D.** - Dean Faculty of Mining and Geology  
**prof. Ing. Alena Sičáková, PhD.** - Vice-Dean for International Affairs, Projects and Mobility, Faculty of Civil Engineering
- 16:10 – 16:30
- 16:30 – 17:45 **Conference Sessions**  
**Chairmen: Adriana Eštoková, Vojtěch Václavík**
- 16:30 – 16:55 Silvia Vilčeková – Research activities in environmental and material engineering
- 16:55 – 17:30 Vladimír Frišták - Biochar and its applications
- 17:30 – 17:45 Edyta Sierka - Biological response of plants to thermally active coal mine spoil heap substrates toxicity: Upper Silesian region in Czech Republic and Poland, examples comparison
- 17:45 – 18:00 Coffee break
- 19:15 Dinner with social programme**

## November 27, 2025

- 09:00 – 10:00 Conference Session**  
**Chairmen: Natália Junáková, Martin Pipiška**
- 09:00 – 09:15 Dagmar Samešová - Assessing odour emissions and environmental impact of a recycled paper production facility
- 09:15 – 09:30 Kristián Mičko - Survey of available technologies for zero carbon and energy balance houses
- 09:30 – 09:45 Helena Hybská - Waste recovery and its environmental impacts
- 09:45 – 10:00 Karel Šec - Outdoor/indoor air quality monitoring and gas purity control (H<sub>2</sub>, N<sub>2</sub>, O<sub>2</sub>)
- 10:00 – 10:15 Piotr Zubek - Potential use of metallurgical and foundry by-products in high-strength concrete
- 10:15 – 10:30 Coffee break
- 10:30 – 12:00 Conference Session**  
**Chairmen: Vojtěch Václavík, Magdaléna Bálintová**
- 10:30 – 10:45 Kateřina Jurajdová Šťastná - Analysis of revitalization measures in Vortovský stream basin
- 10:45 – 11:00 Jana Budajová - Comparative LCA of ground floor systems with focus on material choices
- 11:00 – 11:15 David Hrečín - Recovery of ITO Metals from Mobile Phone Screens Using Acidithiobacillus Bacterial Culture
- 11:15 – 12:00 Poster session
- 12:00 – 13:30 Lunch**

- 14:00 – 18:40      Excursion with education programme in Planetarium, Faculty of Mining and Geology
- 19:00 - 23:00      Social evening with dinner and music in Planetarium

## November 28, 2025

**10:00 – 11:30      Panel discussion**

**Chairmen: Tomáš Dvorský, Vojtěch Václavík**

Discussion on current issues and trends in environmental engineering.

11:40 - 13:00      Lunch

**13:00                  Conference closing**

Poster session	
P-1	Effectiveness of Filtrasorb activated carbon in removing selected pharmaceuticals from water
P-2	Building Information Models (BIM) as a source of data for spatial evidence in facility management
P-3	Removal efficiency of pharmaceuticals from municipal wastewater by advanced treatment methods
P-4	Solutions for reducing the extreme hardness in treated water
P-5	Effect of water-based emulsions on corrosion in bearing ring manufacturing
P-6	Potential of biomass-derived fly ash for zinc adsorption from acidic water
P-7	Molluscs of subsidence basins in the Karviná region
P-8	The effect of biological extracts on the growth and development of invasive plants
P-9	Adaptive urban furniture and its role in the climate resilience of public space
P-10	Public space in the context of urban planning and sustainable urban development
P-11	The use of phytoremediation in the treatment of anthropogenically impacted soils
P-12	The use of flotation for treatment of anthropogenically impacted soils
P-13	Detection of microparticles in tissue and saliva samples from the oral cavity of cancer patients: identification methodology using selected analytical methods
P-14	Energy savings at the WWTP's in line with the applicable legislation
P-15	Laboratory experiments of CO <sub>2</sub> -water-dolomite interactions for a pilot CO <sub>2</sub> storage in a carbonate reservoir in the Czech Republic
P-16	Environmental safety, and legal gaps in tailings management - a Czech and European perspective
P-17	Environmental-interaction elements as a tool for environmental protection (Ostrava-Karviná agglomeration)
P-18	Technology for septage treatment
P-19	Comprehensive assessment of the D1 Paskov mine dump from a reclamation perspective
P-20	A four-layer digital framework for BIM and FM integration in sustainable urban drainage system
P-21	Changes in royalties from mineral extraction and their budgetary allocation in relation to environmental protection in the Czech Republic
P-22	Mine gas emission monitoring following the cessation of mining activities in a hard coal region
P-23	Application of light dynamic penetration in geotechnical investigation of unstable terrain

P-24	Water network loss control system
P-25	Utilisation of mining waste
P-26	Geodetic surveying for the revitalization of the Horní Bečva reservoir
P-27	Combined physical and biological removal of antihypertensive pharmaceuticals from wastewater: a case study from selected WWTP
P-28	Monitoring the revitalisation of water systems affected by mining activities
P-29	Accessible city for everyone
P-30	Removal of Zn(II), Cu(II), Fe(II), and sulphate ions from model solutions using ion exchange resins
P-31	Suburbs placing in relation to land quality
P-32	Post-mining landscapes as natural carbon sinks: potential for ecological restoration
P-33	Biological response of plant to thermally active coal mine spoil heap substrates toxicity: Upper Silesian region in Czech Republic and Poland examples comparison
P-34	Effect of toxicity of selected pollutants on the efficiency of municipal wastewater treatment plant: a case study
P-35	Comparison of laboratory and industrial surface treatment of cement composites with complete replacement of natural aggregate with recycled photovoltaic glass
P-36	Monitoring and assessment of hydromorphological characteristics of the Bílovka stream in the Moravian-silesian region using the HEM 2014 methodology
P-37	Sustainable municipal sewerage system solution: a case study of Ropice
P-38	Steel ladle slag
P-39	Virtual operation support team as a tool for threat mapping and improving scenario modeling in the field of road critical infrastructure
P-40	Analysis of digital tool implementation in building operations
P-41	Building's life cycle for sustainable construction
P-42	Indoor environment of the renovated building
P-43	Analysis of the quality of concrete noise barriers
P-44	CAFM – Integrated tool for the operational phase of the construction life cycle
P-45	Low-carbon cement: Technological and production impacts of clinker factor reduction
P-46	Estimation of human occupancy in enclosed spaces using CO <sub>2</sub> sensor data and statistical modeling for HVAC control applications
P-47	Analysis of the effectiveness of shading systems in ensuring quality daylighting in gallery spaces – case study
P-48	Comparison of the carbon footprint of timber and masonry buildings
P-49	Indoor environmental quality in secondary school: measurements, perceptions, and risk parameters
P-50	Lightweight mixtures with a high proportion of recycled fillers in terms of 3D printing parameters
P-51	Pyrolysis treatment of exotic animal dung: from waste to nutrient source
P-52	Immobilization of ion-imprinted polymers on biochar for selective lithium ion recovery
P-53	Assessment of the suitability of selected waste materials for the production of refractory materials
P-54	The morphology of biochar aimed at its potential application as an electrode material (batteries, supercapacitors)
P-55	Virtual and augmented reality for mining safety and sustainability

P-56	Effect of nano ZnO photocatalyst on some water parameters of Neckar River (Germany) and animal farm wastewater
P-57	Removal of manganese from water
P-58	Enhancing territorial resilience to technological accidents
P-59	Preparedness of a territory for extraordinary events
P-60	Impact of simulated physical weathering on the chemical properties and nutrient availability of extensive green roof substrates amended with biochar and porous concrete