

11<sup>th</sup> Workshop of Slovak Clay Group

**CLAY MINERALS AND SELECTED INDUSTRIAL MINERALS IN MATERIAL  
SCIENCE, APPLICATIONS, AND ENVIRONMENTAL TECHNOLOGY**

2. – 4. 6. 2025  
KÚPELE ČERVENÝ KLÁŠTOR, SLOVAKIA



**PROGRAM**

**ORGANIZATOR:**  
Slovak Clay Group

## ORAL PRESENTATIONS

## MONDAY, 2.6.

13:00 – 14:00	LUNCH (KÚPEĽNÁ REŠTAURÁCIA)
14:25	OPENING (SEMINAR ROOM)
14:30 – 14:50	MOLECULAR RECOGNITION MATERIALS: FROM SOLUTION HOST-GUEST CHEMISTRY TO SUPRAMOLECULAR MATERIALS J. Labuta
14:50 – 15:10	SMECTITES AS A PLATFORM FOR TUNING THE PHOTOPHYSICAL PROPERTIES OF ORGANIC DYES P. Boháč et al.
15:10 – 15:30	INSIGHTS INTO THE PHOTOPHYSICAL PROPERTIES OF DYE/LAYER SILICATE HYBRID SYSTEMS V. Planetová et al.
15:30 – 15:50	EXPLORING THE ADSORPTION PROPERTIES OF BODIPY ON SAPONITE FOR FUNCTIONAL HYBRID MATERIALS L. Santos et al.
15:50 – 16:10	PHOTOACTIVE NANOCOMPOSITES BASED ON SAPONITE: A PROMISING STRATEGY FOR MRSA BIOFILM ERADICATION K. Bilská et al.
16:10 - 16:30	COFFEE BREAK (SEMINAR ROOM)
16:30 - 16:50	FABRICATION OF NANOCOMPOSITE HYDROGELS FEATURING FUNCTIONAL PHOTOACTIVE SURFACES FOR PHOTODYNAMIC INACTIVATION V. George et al.
16:50 – 17:10	TECHNO-MINERALOGICAL ANALYSIS OF HATVAN CULTURE CERAMICS FROM VČELINCE, SOUTH-CENTRAL SLOVAKIA D. Pinzón et al.
17:10 – 17:30	NOVEL FUNCTIONAL GEOPOLYMER COMPOSITES BASED ON CALCINED CLAYS WITH EXCELLENT IMMOBILIZATION PROPERTIES A. Bershadskyi et al.
17:30 – 17:50	MECHANICAL AND STRUCTURAL PROPERTIES OF CEMENT CONCRETES ON RECYCLED AGGREGATES A. Chystiakov et al.
18:00	DINNER (KÚPEĽNÁ REŠTAURÁCIA)

## TUESDAY, 3.6.

07:30 – 09:00	BREAKFAST
09:00 – 12:00	FREE DISCUSSIONS ABOUT WORK AND PROJECTS
12:00 – 13:00	LUNCH
17:00 – 18:00	FREE DISCUSSIONS ABOUT WORK AND PROJECTS
18:30 – 19:30	DINNER (KÚPEĽNÁ REŠTAURÁCIA)

## WEDNESDAY, 4.6.

07:30 – 08:30	BREAKFAST
09:00 – 09:20	FROM DNA TO CLAY: PROBING LIGHT-UP PHENOMENA J. Bujdák
09:20 – 09:40	FTIR SPECTROSCOPIC STUDY OF MODIFIED CLAY MINERALS AS COMPONENTS IN FUNCTIONAL MATERIALS DESIGN P. Labib and H. Pálková

09:40 – 10:00	COMPARISON OF ADSORPTION OF PERFLUOROBUTYRIC ACID AND PERFLUOROHEXANOIC ACID ON MONTMORILLONITE CLAY USING DFT-D3 METHOD S. Bashir and E. Scholtzová
10:00 – 10:10	COFFEE BREAK (SEMINAR ROOM)
10:10 – 10:30	A COMPARATIVE ANALYSIS OF POLY (2-METHYL-2-OXAZOLINE)-MODIFIED MONTMORILLONITE VS SAPONITE FOR STYRENE ADSORPTION BY DFT-D3 STUDY A. Asbat and E. Scholtzová
10:30 – 10:50	ADSORPTION PROPERTIES OF POLY-(N-BUTYLETHYLENEIMINE)-MODIFIED MONTMORILLONITE IN REMOVAL OF CR(VI) FROM WATER SOURCES - COMPUTATIONAL AND EXPERIMENTAL STUDIES P. Škorňa et al.
10:50 – 12:00	POSTER SESSION (SEMINAR ROOM)
12:00	LUNCH (KÚPEĽNÁ REŠTAURÁCIA)

## POSTER PRESENTATIONS

TUESDAY, 3.6.	
P-1	LABORATORY TECHNOLOGICAL RESEARCH OF QUARTZITES FROM LOCALITY ŽIRANY A. Bekényiová et al.
P-2	OXYANION REMOVAL BY CARBONATE-BASED LAYERED DOUBLE HYDROXIDES: RELATED MECHANISMS AND STRUCTURAL CHANGE INVESTIGATIONS B. Böserle Hudcová
P-3	PHOTODYNAMIC INACTIVATION OF STAPHYLOCOCCUS AUREUS USING ERYTHROSIN B: AN ANTIBIOFILM APPROACH L. Bugyna et al.
P-4	LIGHT-ACTIVATED NANOCOMPOSITE ERADICATES MIXED CANDIDA ALBICANS–STAPHYLOCOCCUS AUREUS BIOFILM H. Bujdáková et al.
P-5	GLOBAL OPTIMIZATION OF CHEMICAL CLUSTER STRUCTURES VIA GENETIC ALGORITHM Š. Budzák
P-6	LABORATORY TECHNOLOGICAL RESEARCH OF DOLOMITE FROM SLOVAK DEPOSITS Z. Danková et al.
P-7	LABORATORY TECHNOLOGICAL RESEARCH OF QUARTZITE SAMPLES FROM THE LOCALITY KRNČA E. Fedorová et al.
P-8	THE CRITICAL AND STRATEGIC RAW MATERIALS OF THE EU AND THEIR POTENTIAL IN SLOVAKIA Z. Kollová et al.
P-9	PREPARATION AND CHARACTERIZATION OF TRIMETHYL CHITOSAN - SMECTITE NANOCOMPOSITES V. Kureková et al.
P-10	IR SPECTROSCOPIC CHARACTERIZATION OF NATURAL AND ORGANO-MODIFIED MONTMORILLONITE FROM THE SLOVAK BENTONITE DEPOSIT LUTILA J. Madejová et al.

P-11	CHARACTERIZATION OF ALBERTA OIL SANDS MATURE FINE TAILINGS M. Osacký et al.
P-12	ROLE OF SILANE IN THE FORMATION OF PRECURSORS SMECTITES-BASED POROUS CLAY HETEROSTRUCTURES H. Pálková et al.
P-13	IMMOBILIZATION OF 1,10-PHENANTHROLINE BY MONTMORILLONITE – DFT STUDY E. Scholtzová and E. Mičejová
P-14	PHYSICO-CHEMICAL CHARACTERIZATION OF A THIOL FUNCTIONALIZED MONTMORILLONITE/BIOCHAR COMPOSITE M. Slaný
P-15	HYBRID SYSTEMS BASED ON LAYERED SILICATE NANOPARTICLES AND LUMINESCENT IRIIDIUM(III) COMPLEXES T. Šimonová et al.
P-16	A HYDRATION, DEHYDRATION AND DEHYDROXYLATION OF BENTONITE FROM LUTILA I DEPOSIT P. Uhlík et al.