NOVEL TRENDS IN CHEMISTRY, RESEARCH AND EDUCATION 2026

27.11.2026

CONFERENCE PROGRAMME

8:00-	**Registration**
8:20-8:30	**Conference opening** (prof. RNDr. Zuzana VARGOVÁ, Ph.D.)

chairman: doc. RNDr. Rastislav VARHAČ, PhD.

8:30-9:00	**RNDr. Elena KUPCOVÁ, PhD.** *Faculty of Science, Matej Bel University, Banská Bystrica* **LPME coupled to chromatography: from fundamentals to green practice**
9:00-9:30	**doc. Ing. Jozef SOKOL, CSc.** *Faculty of Science, University of Ss. Cyril and Methodius, Trnava* **Determination of biogenic amines in selected food and beverage samples by liquid chromatography**
9:30-10:00	**RNDr. Lenka KREŠÁKOVÁ, PhD.** *Faculty of Health Care, University of Prešov, Prešov* **When lanthanides meet layered silicates: exploring hybrid magnetic materials**
10:00-10:20	COFFEE BREAK + **POSTER SESSION**

chairman: RNDr. Adrián GUCKÝ, PhD.

10:20-10:50	**Ing. Maroš BELLA, PhD.** *Institute of Chemistry, Slovak Academy of Sciences, Bratislava* **Selective swainsonine-based inhibitors of Golgi α-mannosidase II**
10:50-11:20	**RNDr. Matej BALÁŽ, DrSc.** *Institute of Geotechnics, Slovak Academy of Sciences, Košice* **Mechanochemistry: replacing solutions with mechanical force — UPJŠ Faculty of Science graduates among leaders in Slovakia and worldwide**
11:20-11:50	**RNDr. Michal NEMERGUT, PhD.** *Center for Interdisciplinary Biosciences, TIP UPJŠ, Košice* **Decoding staphylokinase: how mutations shape stability and fibrinolytic activity**
11:50-12:05	**SHIMADZU** **SICRIT revealed – What cold-plasma ionization sees that ESI and APCI miss**

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12:05-13:00 LUNCH

chairman: doc. RNDr. Viktor VÍGLASKÝ, PhD.

13:00-13:30
RNDr. Magdaléna STREČKOVÁ, PhD.
Institute of Materials Research, Slovak Academy of Sciences, Košice
Non-platinum electrocatalysts for water decomposition

13:30-14:00
RNDr. Veronika NIŠČÁKOVÁ, PhD.
Department of Physical Chemistry, Faculty of Science, UPJŠ, Košice
Two approaches to electrochemical energy storage with lithium–sulfur and aqueous organic redox flow batteries

14:00-14:30
RNDr. Adrián GUCKÝ, PhD.
Department of Biochemistry, Faculty of Science, UPJŠ, Košice
Modulation of RNA triple helix stability by disubstituted acridine derivatives

14:30-14:50 COFFEE BREAK + **POSTER SESSION**

chairman: RNDr. Lukáš TRIZNA, PhD.

14:50-15:20
RNDr. Petra LETOŠNÍKOVÁ, PhD.
Department of Didactics of Chemistry, Faculty of Science, UPJŠ, Košice
Artificial intelligence in school practice: the perspectives of students and teachers in Slovakia and Czechia

15:20-15:50
RNDr. Miroslava MATIKOVÁ MAĽAROVÁ, PhD.
Department of Inorganic Chemistry, Faculty of Science, UPJŠ, Košice
Vanadium complexes: Are they suitable for biological applications?

15:50-16:20
doc. RNDr. Mária VILKOVÁ, PhD.
Laboratory of NMR, Faculty of Science, UPJŠ, Košice
DOSY NMR as virtual chromatography in solution: from investigating the conformation and aggregation of anthracene chalcones to a versatile analytical tool

16:20-16:50
RNDr. Zuzana KUDLIČKOVÁ, PhD.
Laboratory of NMR, Faculty of Science, UPJŠ, Košice
Indole–dihydroisoxazole hybrids: synthetic approaches, structural diversity and antiproliferative potential

16:50-17:00
BEST POSTER PRESENTATION AWARD
Conference closing (prof. RNDr. Mária KOŽURKOVÁ, CSc.)

LIST OF POSTERS

P1
A. Reháková, P. Lubal, J. Faltejsek, Z. Vargová*
Study of kinetic properties of metal complexes of pyridine-containing macrocyclic ligands

P2
M. Alifah, E. Beňová, N. Király, V. Zeleňák*
Mesoporous silica influence of surface functionalisation and pH on thrombolytic therapy release

P3
A. Kán Migasová, S. Tomková, T. Zelenka, G. Zelenková, V. Huntošová, M. Almáši*
Histidine-functionalized UiO-66(Zr)-NH_2 as dual drug delivery system for chemo-photodynamic therapy

P4
P. Onderčo, J. Rybář, A. Benčat, D. Vranský, P. Balaskó*
Certified reference materials: Bridging analytical chemistry and metrology

P5
M. Budovská, A. Antošová, R. Michalková, A. Salayová, V. Miškufová, H. Abdul Kareem, S. Chovanová, Z. Gažová*
Multitargeted bis-indole systems: Insights into their anticancer, antioxidant, and anti-amyloid potential

P6
T. Ponč**áková*, P. Michalčin, M. Bago Pilátová, J. Kuchár, M. Martinkov**á
***C*-alkyl pyrrolidine and piperidine-diols decorated with an amino group as potential modulators of sphingolipid metabolism**

P7
S. Hamuľaková*
Synthesis of coumarin-chalcone derivatives as cholinesterase inhibitors

P8
J. Demeterová, P. Obšatník, J. Shepa, N. Király, I. Šišoláková, M. Almáši*
Cyclic voltammetric response of colistimethate sodium at PCN(Cu)-modified screen-printed carbon electrodes

P9
J. Leščinský, V. Niščáková, A. S. Fedorková*
Capacity recovery after high-rate cycling in lithium–sulfur cells with different electrolyte inventories

P10
R. Pástorová, **O. Ozhelevska***, L. Janovec, L. Maliničová, M. Kožurková*
Study of interactions of nitroacridine derivates with DNA and HSA and determination of their antimicrobial activity

P11 ***T. Melegová****, *L. Trizna, V. Víglaský*
Structural variability of non-canonical guanine DNA motifs

P12 ***M. Hrinková****, *L. Trizna, V. Víglaský*
Application of plasmid as an alternative to synthetic DNA minicircles

P13 ***Z. Voskárová****, *M. Nemergut, E. Sedlák*
Biochemical characterization of NanoLuc luciferase and development of a NanoLuc-DARPin conjugate for targeted labelling of HER2-positive cells

P14 ***K. Felčíková****, *A. Poliaková, A. Hovan, G. Bánó, E. Sedlák*
FMN-based protein systems for photosensitizing applications

P15 ***T. Suško****, *Z. Bednáriková, J. Marek, Z. Gažová*
The non-sigmoidal kinetics of human insulin amyloid aggregation near high concentrations: biophysical characterization and mathematical modeling

P16 ***S. Olejárová****, *V. Patsula, D. Horák, V. Huntošová*
Bioimaging of hypericin-functionalized upconverting nanoparticles in the chicken embryo chorioallantoic membrane model

P17 ***B. G. Varchol****, *Z. Jurašeková*
Development and application of SERS methods for molecular detection and interaction studies

P18 ***J. Jurčišin****, *M. Menkyna, E. Sedlák*
Nanobody structure prediction using machine learning model based on improved immune builder model

P19 ***M. Menkyna****, *M. Nemergut, M. Štulajterová, M. Tomková, P. Chomová, I. Pilipčincová, R. Varhač, E. Sedlák*
Molecular dynamics localises secondary structure perturbations in the SAK 42D variant

P20 ***N. Georgiou****, *S. Tomková, V. Huntošová, M. Menkyna, S. Vassiliou, T. Mavromoustakos*
Computational and experimental investigation of six thiazole derivatives for anti-cancer activity

P21 ***T. Gulyásová**** , ***S. Tomková****, *D. Jancura, M. Fabian*
CO-mediated formation of ferryl intermediates in cytochrome *c* oxidase

P22 ***A. Poliaková****, *S. Tomková, K. Felčíková, S. Berešová, V. Huntošová, E. Sedlák*
HER2 targeting by a DARPin G3–AsLOV2 C450A fusion protein: design, characterisation and light-induced effect on tumour cells

**presenting author(s)*