



31st International Symposium on Analytical and Environmental Problems

***Szeged, Hungary
October 13-14, 2025.***

University of Szeged



Final Program

31st International Symposium on Analytical and Environmental Problems

Supporting Organizations

Hungarian Academy of Sciences

Hungarian Chemical Society Group of Csongrád County

Institute of Pharmaceutical Analysis, University of Szeged

Department of Molecular and Analytical Chemistry, University of Szeged

General information

The Symposium features recent findings from leading industrial and academic experts in analytical chemistry and environment-related problems.

Symposium Chairman:

István Ilisz, DSc, professor of chemistry

University of Szeged, Institute of Pharmaceutical Analysis

Honorary Chairman:

Zoltán Galbács, PhD, honorary professor

University of Szeged, Department of Molecular and Analytical Chemistry

Organizing Committee:

István Ilisz, DSc

Tünde Alapi, PhD, associate professor

University of Szeged, Department of Molecular and Analytical Chemistry

Róbert Berkecz, PhD, associate professor

University of Szeged, Institute of Pharmaceutical Analysis

Scientific Committee:

István Ilisz, DSc

Tünde Alapi, PhD

Róbert Berkecz, PhD

Daniela Sojic Merkulov, PhD, full professor

University of Novi Sad, Faculty of Sciences, Department of Chemistry, Biochemistry and Environmental Protection

TIMETABLE

Monday

10⁰⁰–10¹⁰: Opening Ceremony

10¹⁰–12⁰⁰: Oral Presentations: Session I

12⁰⁰–13⁰⁰: Coffee Break

13⁰⁰–14⁴⁰: Oral Presentations: Session II

14⁴⁰–16³⁰: Poster Session: *Poster presenters are asked to hang up their posters between 8³⁰–10⁰⁰ Monday, and remove them after 16³⁰.*

Tuesday

10⁰⁰–11³⁰: Oral Presentations: Session I

11³⁰–13⁰⁰: Coffee Break

13⁰⁰–14⁴⁰: Oral Presentations: Session II

14⁴⁰–16³⁰: Poster Session: *Poster presenters are asked to hang up their posters between 8³⁰–10⁰⁰ Tuesday, and remove them after 16³⁰.*

Oral presentations

The length of oral presentations is 10 minutes. The organizers recommend reserving 1–2 minutes for questions and discussion. Due to the increased number of presenters, we kindly ask for strict adherence to the assigned time in order to keep the schedule on track. Presentations may be prepared in ppt(x) or pdf format. We recommend using a 16:9 slide format for best visibility. Please bring your presentation on a USB stick and upload the file before the session begins. The organizers would appreciate it if you could send your presentation in advance to the conference e-mail address. Please note, however, that the maximum file size that can be accepted is 8 MB. For file identification, please use the following format: Surname_Firstname_Presentation_Day (Monday or Tuesday).

Poster presentations

On both sides of the poster stands, two posters can be displayed. The available area for each poster is 120 cm in height and 70 cm in width. Poster presenters are kindly asked not to exceed the allocated space. Double-sided tape will be provided for mounting the posters. Posters are identified by numbers, which are listed in the ‘Poster Schedule’ available on the homepage. Poster presenters are kindly requested to be present and available to discuss their results during the Poster Sessions.

Oral Presentations: Monday Session I

Session Chair: Dr. István Ilisz (*University of Szeged, Institute of Pharmaceutical Analysis*)

10⁰⁰-10¹⁰

OPENING CEREMONY

10¹⁰-10²⁰

THE ROLE OF CELLULAR REDUCING AGENTS IN THE PROTECTION OF ZINC FINGER PROTEINS AGAINST TOXIC METAL IONS

Benjámin Főgel, Bálint Hajdu, Éva Hunyadi-Gulyás, Attila Jancsó, Béla Gyurcsik

10²⁰-10³⁰

PRELIMINARY STUDIES ON A NEW SCHIFF BASE AND ITS COPPER(II) COMPLEX: SYNTHESIS, CHARACTERIZATION, AND SINGLE CRYSTAL X-RAY STRUCTURES

Ildiko Bută, Sergiu Shova, Bogdan Mara, Liliana Cseh

10³⁰-10⁴⁰

A NEW APPROACH IN OBTAINING LUMINESCENT ORDERED HYBRID SYSTEMS USING METALLOMESOGENS AND CARBON-BASED MATERIALS

Carmen Cretu, Diana O. Rusu, Evelyn Popa, Adelina A. Andelescu, Elisabeta I. Szerb

10⁴⁰-10⁵⁰

TOWARD A SUSTAINABLE STRATEGY FOR THE PRODUCTION OF BIOACTIVE FLAVONOLS

Livia Deveseleanu-Corici, Ildiko Bută, Alina-Ramona Buzatu, Cătălin Ianăși, Liliana Cseh

10⁵⁰-11⁰⁰

IDENTIFICATION OF INORGANIC ELEMENTS IN STANDARDIZED BLACK CHOKEBERRY EXTRACTS AND PRIMARY BIOLOGICAL INSIGHTS ON HUMAN PULMONARY ARTERY ENDOTHELIAL CELLS (HPAEC)

Daniela Haidu, Valentina Oana Buda, Adina Căta, Corina Danciu, Manuela Crisan

11⁰⁰-11¹⁰

DRUG LOADING AND RELEASE DISSOLUTION TESTS USING AS CARRIERS, FUNCTIONALIZED MESOPOROUS SILICA

Ana-Maria Lacrămă, Roxana Nicola, Diana-Oana Rusu, Daniela Haidu

11¹⁰-11²⁰

MISCIBILITY STUDIES ON Ni(II) AND CO(III) LUMINESCENT METALLOMESOGENS

Evelyn Popa, Carmen Cretu, Ildiko Buta, Elisabeta I. Szerb

11²⁰-11³⁰

RAPID FABRICATION OF UIO-66 USING A MICROWAVE-ASSISTED APPROACH AND ITS PERFORMANCE IN HYDROGEN STORAGE

Roxana Nicola, Carmen Cretu, Carlo Poselle Bonaventura, Giovanni Desiderio, Daniela Cozza, Raffaele G. Agostino, Alfonso Policicchio, Ana-Maria Lacrama

11³⁰-11⁴⁰

SYNTHESIS OF COPPER(II)-COMPLEXES WITH SCHIFF BASES, SEMI- AND THIOSEMICARBAZONES, AND THEIR PHYSICO-CHEMICAL STUDIES

Csaba Várhelyi jr., Nóra May, Roland Szalay, János Madarász, Raluca-Anca Mereu, Melinda Simon-Várhelyi, Róbert Tóth, Gyula Novodárszki, Judith Mihály

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11⁴⁰-11⁵⁰

DETERMINATION OF TOXICOLOGICALLY SIGNIFICANT IMPURITIES IN THE TECHNICAL SUBSTANCE PROTHIOCONAZOLE

Jelena Ećimović, Aleksandra Šušnjar, Sanja Lazić, Dragana Šunjka

11⁵⁰-12⁰⁰

OPTIMIZATION AND DEVELOPMENT OF THE RELIABLE HPLC-DAD METHOD FOR THE ANALYSIS OF RESVERATROL IN GRAPES

Aleksandra Šušnjar, Sanja Lazić, Jelena Ećimović, Dragana Šunjka

12⁰⁰-13⁰⁰: Coffee Break

Oral Presentations: Monday Session II

Session Chair: Dr. Tünde Alapi (*University of Szeged, Department of Molecular and Analytical Chemistry*)

13⁰⁰-13¹⁰

ULTRAVIOLET PHOTODETECTORS BASED ON TiO₂-COMPOSITE MATERIALS

Cornelia Bandas, Mircea Nicolaescu, Tudor Braniste, Ion. M. Tighineanu, Mina-Ionela Morariu, Corina Orha, Carmen Lazau

13¹⁰-13²⁰

EVALUATION OF QUATERNARY PHOSPHONIUM SALTS AS POTENTIAL ANTIMICROBIAL AGENTS

Alexandru Buhai, Adriana Popa, Aurelia Vișa, Andrei Ivan, Ileana Nichita

13²⁰-13³⁰

INFLUENCE OF X-RAY IRRADIATION ON SPECTROSCOPIC PROPERTIES OF TmF₃ –DOPED FLUORIDE (CaF₂ AND BaF₂) CRYSTALS

Gabriel Buse, Maria Poienar, Philippe Veber, Daniel Vizman, Carla Zeicu and Marius Stef

13³⁰-13⁴⁰

EXPLORING THE CHEMICAL SPACE OF BILIRUBIN ANALOGUES: VIRTUAL SCREENING AND EVALUATION OF PHARMACOKINETICS AND DRUG-LIKENESS PROFILES

Lucia Gradinaru, Luminita Crisan

13⁴⁰-13⁵⁰

METAL–ORGANIC FRAMEWORK COMPOSITES FOR TARGETED PHENOLIC DERIVATIVES REMOVAL FROM WATER

Marcela Iosivoni, Nicoleta Plesu, Bianca Maranescu, Lavinia Lupa, Aurelia Visa

13⁵⁰-14⁰⁰

APPLICATION OF MANGANESE-DOPED IRON OXIDE NANOPARTICLES AS ADSORBENTS FOR DYES REMOVAL: PRELIMINARY STUDIES

Maria Andreea Nistor, Roxana Nicola, Simona Gabriela Muntean

14⁰⁰-14¹⁰

INVESTIGATING THE CORROSION INHIBITION CHARACTERISTICS OF METAL PHOSPHONATES THAT INCORPORATE TRANSITION METALS

Nicoleta Plesu, Milica Tara-Lunga Mihali, Luminita Crisan, Maranescu Bianca, Popa Adriana, Visa Aurelia

14¹⁰-14²⁰

CORRELATIONS BETWEEN STRUCTURE AND PROPERTIES IN RARE EARTH DOPED FLUORIDE MATERIALS

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Maria Poienar, Gabriel Buse, Matthias Gutmann, Marius Stef, Carla Zeicu, Philippe Veber, Daniel Vizman

14²⁰-14³⁰

MASS SPECTROMETRY-BASED INSIGHTS INTO HUMAN BRAIN GANGLIOSIDE DYNAMICS IN HEALTH AND NEUROLOGICAL DISORDERS

Mirela Sarbu, Raluca Ica, Roxana Biricioiu, David E. Clemmer, Alina D. Zamfir

14³⁰-14⁴⁰

COMPUTATIONAL APPROACH FOR SELECTIVITY INVESTIGATION OF HOMOLOGOUS KINASES

Nicoleta Stoian, Liliana Halip

Oral Presentations: Tuesday Session I

Session Chair: Dr. István Ilisz (*University of Szeged, Institute of Pharmaceutical Analysis*)

10⁰⁰-10¹⁰

CHANGING APPROACH TO CORPORATE SOCIAL RESPONSIBILITY

László Berényi

10¹⁰-10²⁰

CATALYTIC/PHOTOCTALYTIC ACTIVITY OF MELAMINE-MODIFIED BIOCHAR FOR TRIMETHOPRIM DEGRADATION

Dinesh Chandola, Veres Bence, Zsuzsanna László and Tünde Alapi

10²⁰-10³⁰

THE EFFECT OF THE METAL IONS ON THE CATALYTIC ACTIVITY OF TEM-1 β -LACTAMASE

Zeyad H. Nafae, Béla Gyurcsik, Gábor Peintler

10³⁰-10⁴⁰

EFFECT OF PRINTING TEMPERATURE ON THE MECHANICAL AND THERMAL PROPERTIES OF PRINTED SPECIMENS MADE FROM PACKAGING PLA

Balázs Ádám, Erika Varga

10⁴⁰-10⁵⁰

LCA OF SEMI-TRANSPARENT PHOTOVOLTAICS UNDER DEVELOPMENT IN THE TRANSMIT PROJECT

Zita Brigitta Békési, Renáta Bodnárné Sándor, Richárd Ladányi, Pedro Anacleto, Francesco De Nicola

10⁵⁰-11⁰⁰

PARAMETERIZED SYNTHESIS OF CSPBI, NANOCRYSTALS AND THEIR EFFECTS ON THE LIFECYCLE OF ISOPODS

Adrienn-Dorisz Dávid, Kincső Kozma, Renáta Szabó, Gergő Soós, Krisztina Albert, Anna Dénes, Lilla Szalma, Tamás Gyulavári, Karolina Solymos, Lujza Keresztes, Zoltán Kónya, Zsolt Pap

11⁰⁰-11¹⁰

ENHANCED SOLUBILIZATION OF KETOPROFEN USING TRITON X-100, TRITON X-165, BRIJ C10, AND THEIR MIXED MICELLE SYSTEMS

Zita Farkaš Agatić, Mladena Lalić-Popović, Nemanja Todorović, Ana Stjepanović, Vesna Tepavčević, Mirjana Bećarević, Mihalj Poša

11¹⁰-11²⁰

POTENTIAL APPLICATION OF SILVER-DOPED TIN OXIDE THIN FILMS IN CNT GROWTH

Hadjra Ben Haoua, Boubaker Benhaoua, Lilla Nánai, Klára Hernádi

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11²⁰-11³⁰

COMPARING THE EFFECTS OF GREEN SOLVENTS IN HPLC WITH POLYSACCHARIDE-TYPE CHIRAL STATIONARY PHASES FOR ENANTIOSEPARATION OF COMPOUNDS OF PHARMACEUTICAL RELEVANCE

Gábor Némethi, Tam Le Minh, Zsolt Szakonyi, Antal Péter, István Ilisz

11³⁰-13⁰⁰: Coffee Break

Oral Presentations: Tuesday Session II

Session Chair: Dr. Róbert Berkecz (*University of Szeged, Institute of Pharmaceutical Analysis*)

13⁰⁰-13¹⁰

LIFE CYCLE ASSESSMENT OF MATERIALS USED FOR PORTAL FRAME PRODUCTION

Sladjana Jovanovic, Vladimir Mucenski, Boris Agarski

13¹⁰-13²⁰

TOWARDS SUSTAINABLE FUELS: ENHANCING EFFICIENCY IN CO₂ HYDROGENATION THROUGH PROCESS INTENSIFICATION

Masoud Shirzadi Ahoudashti, András Sári

13²⁰-13³⁰

SELENIUM NANOPARTICLES CONJUGATED WITH *Scutellaris barbata* D. Don POLYSACCHARIDES: SYNTHESIS, OPTIMIZATION, STRUCTURAL CHARACTERIZATION AND EVALUATION OF ANTI-HEPATOMA ACTIVITY IN VITRO

Rong Shan, Jun Liang, Xiaoyi Xu, Yongkui Yi, Hui Yuan, Xiaoyan Gao, Qingxue Zhao, Gaochen Son, Imre Miklós Szilágyi

13³⁰-13⁴⁰

BINDING AND PARTITIONING BEHAVIOR OF KETOPROFEN WITH SURFACTANTS: INFLUENCE OF POLOXAMER 188 AND 407 IN PREFORMULATION STUDIES

Zita Farkaš Agatić, Vesna Tepavčević, Mladena Lalić-Popović, Nemanja Todorović, Ana Stjepanović, Mihalj Poša

13⁴⁰-13⁵⁰

INVESTIGATING THE ENHANCED THERMAL RESISTANCE OF SUSTAINABLE MICA/PA11 COMPOSITES VIA THERMOGRAVIMETRIC ANALYSIS

Erika Varga, Balázs Ádám

13⁵⁰-14⁰⁰

GEOSPATIAL ASSESSMENT OF SOIL DETERMINANTS DRIVING THE DISTRIBUTION AND INVASION RISK OF *ASCLEPIAS SYRIACA* ACROSS HUNGARY

Georgina Veronika Vizsra, Annamária Laborecz, Nándor Csikós, Gábor Szatmári, Márton Bence Balogh and Péter Szilassi

14⁰⁰-14¹⁰

PHOTOCATALYTIC DEGRADATION OF METHYLENE BLUE AND RHODAMINE 6G USING G-C₃N₄/TiO₂ NANOCOMPOSITES SYNTHESIZED BY HYDROTHERMAL METHOD FOR ENVIRONMENTAL PROTECTION

Asefa Mekonen, Miklós Szilágyi Imre, Lucy Nyambura, Madarász János

14¹⁰-14²⁰

COMPUTATIONAL FLUID DYNAMICS SIMULATION OF MEMBRANE FOULING MITIGATION USING 3D PRINTED TURBULENCE PROMOTERS

Aws N. Al-Tayawi, Zsuzsanna László, Cecilia Hodúr, Szabolcs Kertész

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14²⁰-14³⁰

FABRICATION AND INVESTIGATION OF Fe₃O₄/Ag₃PO₄ PHOTOCATALYST ON THE SURFACE OF CERAMIC PAPER

John Chagu, Dániel Simon Berkesi, Klára Hernádi

14³⁰-14⁴⁰

NOVEL UHPLC-MS/MS METHOD AND PERMEABILITY STUDY OF THE BRAIN PENETRANT NEUROPROTECTIVE AGENTS: KYNA ANALOGS—A CRITICAL STEP IN DRUG DEVELOPMENT

Zahraa Ali; Bálint Lőrinczi; István Ilisz; István Szatmári; Imola Wilhelm; László Vécsei, Róbert Berkecz