



30th International Symposium on Analytical and Environmental Problems

***Szeged, Hungary
October 7-8, 2024.***

University of Szeged



Final Program

Supporting Organizations

Hungarian Academy of Sciences

Institute of Pharmaceutical Analysis, University of Szeged

Department of Molecular and Analytical Chemistry, University of Szeged

Hungarian Chemical Society Group of Csongrád County

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, assistant 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

10⁰⁰–10¹⁵: Opening Ceremony: Prof. Dr. Zoltán Kónya, Vice-Rector for Scientific Affairs & Innovation, University of Szeged

10¹⁵–12⁰⁰: Oral Presentations: Session I

12⁰⁰–13⁰⁰: Coffee Break

13⁰⁰–14³⁰: Oral Presentations: Session II

14³⁰–16³⁰: 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

13⁰⁰–14³⁰: Oral Presentations: Session II

14³⁰–16³⁰: Poster Session: *Poster presenters are asked to hang up their posters between 8³⁰–10⁰⁰ Tuesday, and remove them after 16³⁰.*

Oral Presentations: Monday Session I

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

10⁰⁰-10¹⁵

OPENING CEREMONY

Prof. Dr. Zoltán Kónya, Vice-Rector for Scientific Affairs & Innovation, University of Szeged

10¹⁵-10³⁰

GROWTH OF TmF₃ DOPED CaF₂ CRYSTALS AND INVESTIGATION OF THEIR OPTICAL PROPERTIES

Gabriel Bușe, Maria Poienar, Marius Ștef, Carla Zeicu, Daniel Vizman, Vincent Motto-Ros, Frédéric Pelascini and Philippe Veber

10³⁰-10⁴⁵

VISIBLE-LIGHT PHOTOCATALYSIS OF AZO DYES USING COPPER(II) COORDINATION POLYMERS

Ildiko Buta, Maria Andreea Nistor, Simona Gabriela Muntean

10⁴⁵-11⁰⁰

SYNTHESIS AND MESOMORPHIC PROPERTIES OF NOVEL THERMOTROPIC LIQUID CRYSTALS

Livia Deveseleanu-Corici, Daniela Haidu, Angela Maria Spirache, Milenca Vorga, Xiangbing Zeng, Goran Ungar, Liliana CSEH

11⁰⁰-11¹⁵

THE EFFICIENCY OF COBALT BASED MOFS IN THE ADSORPTION AND PHOTODEGRADATION OF DYES FROM AQUEOUS SOLUTIONS

Simona Gabriela Muntean, Maria Andreea Nistor, Ildiko Buta, Aurelia Visa

11¹⁵-11³⁰

FACTORIAL DESIGN AND RSM FOR OPTIMIZATION OF DYES ADSORPTION FROM WASTEWATER BY MAGNETIC NANOCOMPOSITE

Maria Andreea Nistor, Simona Gabriela Muntean, Liliana Halip

11³⁰-11⁴⁵

ELECTROCHEMICAL REGENERATION OF PHENOL- IMPREGNATED IONIC LIQUID/METAL PHOSPHONATES

Nicoleta Plesu, Lavinia Macarie, Bianca Maranescu, Adriana Popa, Aurelia Visa

11⁴⁵-12⁰⁰

SYNTHESIS OF IRON(II)-COMPLEXES WITH GLYOXIMES AND BORIC ACID DERIVATIVES, AND THEIR PHYSICAL-CHEMICAL AND BIOLOGICAL STUDIES

Csaba Várhelyi jr., Ernő Kuzmann, Zoltán Homonnay, Roland Szalay, János Madarász, Raluca-Anca Mereu, Judit Papp, Melinda Simon-Várhelyi, Róbert Tötös, Judith Mihály

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

APPLICATION OF NANOPOROUS GLASS SUBSTRATES TO FACILITATE THE DIRECT TRACE ANALYSIS OF LIQUIDS BY LASER-INDUCED BREAKDOWN SPECTROSCOPY

Gyula Kajner, Ádám Béltéki, Judit Kopniczky, Gábor Galbács

13¹⁰-13²⁰

ASSESSMENT OF THE DISTRIBUTION OF GOLD NANOPARTICLES IN THIN POLYMER FILMS BY LASER-INDUCED BREAKDOWN SPECTROSCOPY ELEMENTAL MAPPING

Orsolya Urbán, Fernando Casian Plaza, Ádám Béltéki, Márk Aladi, Miklós Kedves, Attila Bonyár, Miklós Veres, Gábor Galbács

13²⁰-13³⁰

DEPOSITION TECHNIQUES OF HIGH ENTROPY ALLOY CATALYST THIN FILM FOR CARBON NANOTUBE FORESTS GROWTH BY CCVD

Bugumba John Majondo, Lilla Nánai, Eszter Baradács, Zoltán Erdélyi, Klára Hernádi

13³⁰-13⁴⁰

DEVELOPMENT OF NOVEL PHOTOCATALYTIC MATERIALS FOR WASTEWATER TREATMENT

Dániel Berkesi, Nikita Sharma Szilvia Szabó, Klára Hernádi

13⁴⁰-13⁵⁰

EXPERIMENTAL AND THEORETICAL ASPECTS OF CCVD SYNTHESIS OF VERTICALLY ALIGNED CARBON NANOTUBES ON AZO SUBSTRATE

Lilla Nánai, George Kaptay, Klára Hernádi

13⁵⁰-14⁰⁰

INTACT PROTEIN ANALYSIS OF SNAKE VENOMS WITH CZE-MS

Gayatri Vishwakarma, Melinda András, Ruben Szabó, Péter Hajdú, Vladimir Petrilla, Monika Petrillová, Jaroslav Legath, Attila Gáspár

14⁰⁰-14¹⁰

pH DEPENDENCE OF PARACETAMOL REMOVAL BY NANOFILTRATION IN AQUEOUS SOLUTIONS

Máté Sütő, Tamás Szabó, Gábor Peintler

14¹⁰-14²⁰

COMBINING PHOTOACOUSTIC SPECTROSCOPY AND SCANNING MOBILITY PARTICLE SIZER INSTRUMENTS FOR CHARACTERIZATION OF DIESEL EMISSIONS

Rana Khawar Ashfaq, Abdul Rahman, Tibor Ajtai, Zoltán Bozóki

Oral Presentations: Tuesday Session I

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

10⁰⁰-10¹⁵

PERCEPTION OF GLOBAL PROBLEMS AMONG STUDENTS: AN 8-YEAR RETROSPECTIVE

László Berényi

10¹⁵-10³⁰

12 YEARS OF A CITY – NOISE AND OTHER ENVIRONMENTAL MEASUREMENTS IN THE CITY OF SZEGED

Zsolt I. Benkő

10³⁰-10⁴⁵

INVESTIGATION OF THE DEGRADATION OF PBAT-BIOPOLYMER USING THE GC-MS METHOD

Mária Mörtl, Damak Mariem, Zsolt Varga, György Fekete, András Székács, László Alexa

10⁴⁵-11⁰⁰

DETECTION OF MICROPLASTICS IN GANGA RIVER WATER IN UTTARAKHAND STATE OF INDIA

Manisha Dhiman, Prashant Pandey, Amit Pokhriyal, Rimpi Upadhyay, Anupama Lakhera

11⁰⁰-11¹⁵

NATURAL SOURCE BASED CARBON ADSORBENTS FOR SELECTIVE REMOVAL OF BETA LACTAM ANTIBIOTICS FROM WASTEWATER

**Prashant Pandey, Chinenye Adaobi Igwegbe, Andrzej Białowiec, Amit Pokhriyal
Diana-Oana Rusu, Ana-Maria Putz**

11¹⁵-13⁰⁰: Coffee Break

Oral Presentations: Tuesday Session II

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

13⁰⁰-13¹⁰

ANIONIC SURFACTANT ADSORPTION ON ROCKS COVERED WITH ASPHALTENE

Tibor István Ördög, Lilla Balassa, Sándor Puskás, Imre Dékány

13¹⁰-13²⁰

ANALYZING FLOW DYNAMICS WITH 3D PRINTED TURBULENCE PROMOTERS IN ULTRAFILTRATION UNIT TO MITIGATE MEMBRANE FOULING

Aws N. Al-Tayawi, Hajnalka Csott, József Richárd Lennert, Zsuzsanna Horváth Hovorka, Zsuzsanna László, Cecilia Hodúr, Tamás Szabó, Szabolcs Kertész

13²⁰-13³⁰

INVESTIGATING THE EFFECT OF SIC ON THERMAL MECHANICAL PROPERTIES OF MULLITE-CORDIERITE CERAMIC COMPOSITES

John. W. Makokha, Imre Szent, Tamás Boldizsár, Gábor Kozma, András Sápi, Zoltán Kónya

13³⁰-13⁴⁰

CRITICAL IMPORTANCE AND APPLICATIONS OF PROCESS INTENSIFICATION FOR TACKLING ENVIRONMENTAL CHALLENGES

Masoud Shirzadi, András Sápi

13⁴⁰-13⁵⁰

INNOVATIVE AND NOVEL APPROACHES TO REDUCING MANURE EMISSIONS: ADVANCING SUSTAINABLE AGRICULTURE

Vineet Srivastava, Edit Mikó, George Wanjala, László Horváth, Anna Szabó, Zoltán Bozóki

13⁵⁰-14⁰⁰

IMPACT OF THE FEEDSTOCK, PYROLYSIS TEMPERATURE AND MODIFICATIONS IN THE PHYSICAL, CHEMICAL AND ADSORPTIVE PROPERTIES OF BIOCHARS. CASE STUDY: AMMONIUM IONS ADSORPTION

Fernanda Pantoja, Sándor Beszédes, Tamás Gyulavári, Erzsébet Illés, Gábor Kozma, and Zsuzsanna László

14⁰⁰-14¹⁰

PREDICTION OF MONTHLY PM₁₀ CONCENTRATION IN URBAN LANDSCAPES USING RANDOM FOREST MODELLING

Seyedehmehrmanzar Sohrab, Péter Szilassi, Nándor Csikos

14¹⁰-14²⁰

AMBIENT AIR POLLUTION AS A CAUSAL FACTOR FOR GESTATIONAL DIABETES MELLITUS IN MINING COMMUNITIES: A ROADMAP TO REAL-TIME PHOTOACOUSTIC SPECTROSCOPY APPLICATION

Naomi Tracey Tsebe-Sibiya