

Maria Curie-Skłodowska University in Lublin

Faculty of Chemistry, Institute of Chemical Sciences

Polish Chemical Society

Łukasiewicz Research Network – New Chemical Syntheses Institute



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Łukasiewicz
Instytut Nowych
Syntezy Chemicznych



Agenda of

International Conference

Science and industry – challenges and opportunities

June 4-6, 2024, Lublin - Puławy

Honorary Committee

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Prof. dr hab. Rajmund Michalski, PAN, Zabrze
Dr hab. Jolanta Narkiewicz-Michałek, prof. UMCS, Lublin
Prof. dr hab. Agnieszka Nosal-Wiercińska, UMCS, Lublin
Dr hab. Piotr Nowicki, prof. UAM, Poznań
Prof. dr hab. Robert Pietrzak, UAM, Poznań
Dr hab. Beata Podkościelna, prof. UMCS, Lublin
Dr hab. Anna Przybył, prof. UAM, Poznań
Dr hab. Magdalena Regel-Rosocka, prof. PP, Poznań
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Dr hab. inż. Katarzyna Siwińska-Ciesielczyk, prof. PP, Poznań
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Dr hab. Monika Wawrzekiewicz – Member of the Committee, prof. UMCS, Lublin
Mgr Emil Zięba – Member of the Committee, KUL, Lublin
Dr hab. Marcin Konkół – Member of the Committee, Łukasiewicz - INS
Mgr Magdalena Woźniakowska – Member of the Committee, Łukasiewicz - INS
Dr Katarzyna Tyśkiewicz – Member of the Committee, Łukasiewicz-INS

Important information

The conference takes place
in the building of the Institute of Computer Science, 9 Akademicka St., 1st floor, room D105
(entrance to the building from 2 M. Curie-Skłodowska Sq., between the buildings of the Department of
Chemistry and the Department of Mathematics, Physics and Computer Science)
and in Puławski Park Naukowo-Technologiczny, 1 Mościckiego St., Puławy.

Registration of participants and collection of conference materials
will be held in the conference office (Institute of Computer Science, 1st floor)
on 04.06.2024 from 8.00 a.m.

The poster session will be held on 04.06.2024
from 10:30 a.m to 3:00 p.m. (lobby, 2nd floor),
please hang up your posters in advance.

Settlement of the competition for the best
poster - at 3.15 p.m., room D105.

Lunches
Restaurant "Basil"
4a Maria Curie-Skłodowska Sq., Lublin
(building of Faculty of Humanities).

The gala dinner will be held on 04.06.2024
from 7:00 p.m. to 11:30 p.m. at the Mecure Hotel
12 Raclawickie Ave., Lublin.

„Trip with Czartoryski Family“ - excursion on 05.06.24
from 3.15 p.m. to 5.15 p.m. - registration at the conference office on 04.06.24.

Departure by bus to Puławski Park Naukowo-Technologiczny, 1 Mościckiego St.,
on 5.06.24 at 9 a.m. from the Mercure Hotel, 12 Raclawickie Ave., Lublin

ATTENTION: The Organizing Committee reserves the right to make changes to the program!

June 4, 2024
Institute of Computer Science, 9 Akademicka St., Lublin, 1st floor, room D105

9:00 – 9:30	Opening ceremony of the conference: Vice-President prof. dr hab. Dorota Kołodyńska
Session Chair: prof. dr hab. Dorota Kołodyńska, UMCS	
9:30 – 10:00	Lecture 1 - coming soon
10:00 – 10:30	Lecture 2 - coming soon
10:30 – 11:00	Coffee break
10:30 – 15:00	Poster session, lobby, 2 nd floor
Session Chair: prof. dr hab. Dorota Kołodyńska, UMCS	
11:00 – 11:30	S. Sokołowski , Some comments concerning the interpretation of experimental data in the field of surface chemistry: misinterpretations, incorrect models, false, equations, etc.
11:30 – 11:45	T. Wasilewski , Management of hygiene cosmetic formulation towards reducing negative effects on the skin – considering functionality and economic aspects
11:45 – 12:15	A. Nawrocka , Arsenic speciation in fish and seafood samples
12:15 – 14:00	Lunch, Coffee break
Session Chair: dr hab. Beata Podkościelna, prof. UMCS	
14:00 – 14:15	B. Rojek , A. Bartyzel, A. Plenis, FTIR and TGA-FTIR in compatibility study of arbidol hydrochloride mixtures with excipients
14:15 – 14:30	T. Banaszek , A. B. Nowicka, M. Szybowicz, R. Wichniarek, W. Kuczko, D. Tomczak, M. Wojtylko, A. Froelich, B. Jadach, T. Osmalek, Raman spectroscopy in the study of active pharmaceutical ingredients
14:30 – 14:45	Z. Krupa , J. Nizioł, T. Ruman, Laser ablation remote ionisation mass spectrometry imaging for detection of biomarkers and metabolites
14:45 – 15:00	B. Czech , A. Sokołowski, Phytotoxicity of biochars obtained from various raw materials
15:00 – 15:15	A. Gładysz-Płaska , A. Lipke, J. Padarz, M. Gajewska, E. Grabias-Blicharz, M. Majdan, Studies of thorium sorption on functionalized mesoporous silica
15:15 – 15:30	Settlement of the competition for the best poster
19:00 – 23:30	Gala dinner, Hotel Mercure, 2 Raclawickie Ave., Lublin

June 5, 2024
Puławski Park Naukowo-Technologiczny, 1 Mościckiego St., Puławy

10:30 – 11:00	Opening coffee
Session Chair: dr hab. Marcin Konkol, Łukasiewicz-INS	
11:00 – 11:15	M. Konkol , Conference opening in Łukasiewicz-INS
11:15 – 11:55	W. Vetter , T. Hammerschick, F. Rüttler, M. Müller, Countercurrent chromatography methods for the isolation of bioactive lipid compounds
11:55 – 12:10	K. Tyśkiewicz , M. Gruba, M. Kondracka, R. Tyśkiewicz, A. Wziątek, M. Konkol, R. Wiejak, R. Kowalski, A. Bialek, Supercritical carbon dioxide extracts from clove buds with antifungal properties
12:10 – 12:30	Coffee break
Session Chair: dr hab. Marcin Konkol, Łukasiewicz-INS	
12:30 – 12:45	Z. Hordyjewicz-Baran , T. Wasilewski, M. Zarębska, N. Stanek-Wandzel, A. Krzysowska, M. Tomaka, Micellar extraction as a tool for the development of natural skin care cosmetics containing substances isolated from grapevine buds
12:45 – 13:00	E. Nalewajko-Sieliwoniuk , I. Wysocka, A. Kalinowska, Determination of antioxidants in edible oils using a flow system with chemiluminescence detection
13:00 – 13:15	A. Myka , R. Łyszczek, A. Bińczak, Polihalite: what kind of fertilizer is it?
13:15 – 14:30	Lunch and coffee break
Session Chair: dr hab. Monika Wawrzekiewicz, prof. UMCS	
14:30 – 14:45	L. Senerovic , M. Atanaskovic, A. Djokic, N. Stankovic, L. Djokic, I. Moric, Bioprospecting of microbial enzymes for industrial application
14:45 – 15:00	A. Zdunek , D. Kołodyńska, K. Borowik, Removal of fluoride ions from ammonium sulphate(VI) solutions by ion exchange resin
15:00 – 15:15	A. Wołowicz , Z. Hubicki, Comparison of adsorptive removal of vanadium(V) ions from aqueous solutions by various ion exchange resins
15:15 – 17:15	Closed session for participants of "Eureka NatBioPrep"
15:15 – 17:15	Trip with Czartoryski Family
18:00	Dinner, Dwór Bogucin, 108 A Bogucin, Garbów

June 6, 2024 Institute of Computer Science, 9 Akademicka Street, Lublin, 1st floor, room D105	
Session Chair: dr hab. Agnieszka Gładysz-Plaska, UMCS	
9:00 – 9:30	W. Stachowicz, M. Rzelewska-Piekut, W. Smulek, <u>M. Regel-Rosocka</u> , Bioorganic precipitation of platinum group metal nanoparticles
9:30 – 9:45	<u>T. Michałek</u> , M. Wojnicki, Improving the efficiency of palladium(II) cementation from dilute solutions by using silver-copper alloy powders
9:45 – 10:00	<u>A. Pawlak</u> , A. Nosal-Wiercińska, Research on the “cap-pair” effect for Bi(III) ions in aqueous-organic environments. Effect of selected ionic surfactants on the electrode process
10:00 – 10:30	Coffee break
Session Chair: dr hab. Bożena Czech, prof. UMCS	
10:30 – 10:45	<u>J. Karpińska</u> , U. Kotowska, W. Polińska, D. Kiejza, The use of peracetic acid for the degradation of selected group of organic pollutants – kinetic study
10:45 – 11:00	<u>M. Hryniewicka</u> , Biosurfactants and their applications in sample preparation techniques
11:00 – 11:15	<u>M. Goliszek</u> , K. Skrzypiec, B. Podkościelna, Lignin as a sustainable additive for polymer protective materials
11:15 – 11:30	<u>O. Kapusta</u> , M. Kaczmarczyk, M. Barczak, Synthesis of alginate hydrogels doped with iron microparticles: rheological and spectroscopic characterization
11:30 – 11:45	<u>K. Karpińska-Wliziło</u> , W. Gac, W. Zawadzki, G. Słowik, CO ₂ hydrogenation in the presence of alumina and silica supported nickel catalysts
11:45 – 12:00	<u>M. Skrzetuszewski</u> , Ł. Litwiniuk, M. Zajkowski, S. Górnik, K. Hovorova, Testing the spectral characteristics of reflective materials using a multi-angle attachment
12:00 – 12:15	Closing ceremony of the conference: presidents prof. dr. Zbigniew Hubicki and prof. dr hab. Dorota Kołodyńska
12:15 – 13:15	Lunch

List of posters

P1. J. Miętus, P. Tobiasz, I. Zdaniewicz, F. Borys, K. Wojciechowski, A. Susdorf, H. Krawczyk

Study of substituted chalcones combined with azobenzenes - new photoswitches

P2. B. Rojek, A. Plenis

Piroxicam compatibility screening using spectroscopic techniques supported by thermal analysis

P3. L. Nosach, A. Chrzanowska, E. Skwarek

Formation of zinc sulfate and zinc acetate monolayers on nanosilica surface: modification and thermal transformations

P4. W. Korol, G. Bielecka, J. Rubaj, H. Nieściór

Determination of urea in high protein feed materials and compound and complementary feed by a spectrophotometric method

P5. J. Bąk, D. Kołodyńska

Hydrotalcite modified biochars (Zn/Al-LDH@BC, Co/Al-LDH@BC) as an example of effective sorbents for removing cerium(III) ions from aqueous media

P6. D. Paluch, A. Bazan-Woźniak, R. Pietrzak

X-ray photoelectron spectroscopy as an effective method for qualitative and quantitative surface analysis of carbon adsorbents derived from herbal materials

P7. R. Wolski, A. Bazan-Woźniak, R. Pietrzak

Activated carbons obtained from corn digest as adsorbents of pharmaceutical pollutants

P8. M. Wawrzekiewicz, B. Podkościelna, B. Tarasiuk

Synthesis, characterisation and application of new polymeric adsorbent containing starch for the removal of toxic dye

P9. D. Fila, Z. Hubicki, D. Kołodyńska

Influence of the type of crosslinking agents on the sorption properties of alginate hydrogel microspheres

P10. A. Wawruch, D. Fila, Z. Hubicki

Natural-based adsorbent in the sorption of critical raw materials

P11. A. Wawszczak, G. Józefaciuk, D. Kołodyńska

Optimization of cadmium ion sorption using bio-inspired matrices: experimental investigations

P12. B. Charmas, B. Wawrzaszek, K. Jedynak

Mechanochemical activation as an effective way of developing biocarbons surface and porosity

P13. B. Charmas, J. Skubiszewska-Zięba, K. Jedynak

Change in SiO₂ structure under hydrothermal conditions during mechanochemical milling

P14. B. Czech, A. Sokołowski

Phthalic acid esters in biochar-amended soil-vegetable system

P15. P. Radulski, B. Kaźmierczak, A. Kaczmarczyk

The use of spectroscopic methods for the analysis of biocarbon obtained from plant wastes

P16. B. Kaźmierczak, J. Drabik, P. Radulski, A. Kaczmarczyk, J. Molenda

The influence of pyrolysis temperature on qualitative changes in carbon materials obtained from tea bio-waste

P17. M. Wiśniewska, K. Tokarska, T. Urban, P. Nowicki

Production of activated biocarbons by microwave-assisted chemical activation of hardwood sawdust

P18. M. Wiśniewska, M. Gęca, P. Nowicki

Effect of the activation procedure on the adsorption properties of carbonaceous materials obtained from herbs towards ionic polymers

P19. S. Gustaw, J. Bąk, D. Kołodyńska

Biochar-based sorbents as materials in the sorption of arsenic(V) ions from aqueous solutions

P20. G. Wójcik, Z. Hubicki, K. Zinkowska

Sorption of nickel(II) ions on chelating ion exchanger

P21. J. Bok-Badura, A. Jakóbik-Kolon, B. Sagan-Szendzielorz

Sorption of cesium and strontium ions on hybrid pectin based sorbent

P22. M. Kalinowska, E. Gołębiewska, K. Koronkiewicz, M. Bieniek, A. Ziniewicz

Extraction of bioactive compounds from dandelion using modern extraction techniques

P23. M. Krystkowicz, M. Kalinowska, G. Kolenda, K. Koronkiewicz, E. Gołębiewska, R. Choińska, J. Skibicki

Pressurized solvent extraction (PSE) of bioactive compounds from apple pomace

P24. H. Kuzmanenko, T. Okholina, W. Sofińska-Chmiel, U. Maciołek, M. Goliszek, M. Drewniak, J. Orzeł

Chemical analysis of kaolin from the Zhezheliv deposits from Vinnytsia region

P25. T. Okholina, H. Kuzmanenko, W. Sofińska-Chmiel, U. Maciołek, L. Gazda, E. Mendyk, K. Skrzypiec, J. Orzeł

Spectroscopic characterization of amber from Ukrainian and Lublin deposits

P26. I. Pańczuk-Figura, W. Sofińska-Chmiel, U. Maciołek

Chemical analysis of coffee with the addition of cinnamon, ginger and cardamon

P27. K. Lewtak, W. Sofińska-Chmiel, J. Wydrych, B. Sidorska, M. J. Fiołka

FTIR spectroscopy as a tool for changes in the cell wall of the fungus *Candida Albicans* after the action of compounds of animal and plant origin

P28. M. Fiałek, C. Wardak, M. Wardak

Potassium potentiometric sensors for testing the composition of pharmaceutical preparations

P29. M. Fiałek, M. Grabarczyk, M. Wardak

The influence of surfactive substances with different charge on the voltamperometric signal of gallium

P30. J. Lenik, C. Wardak

Construction and properties of ion selective electrodes for chlorhexidine determination

P31. K. Morawska, C. Wardak, J. Lenik, M. Wardak

Nitrate ion-selective electrodes with nanocomposite-modified ion-sensitive membrane

P32. I. Gęca, M. Korolczuk

Application of cold vapour stripping voltammetry for determination of total mercury

P33. M. Ochab, I. Gęca

Determination of folic acid by adsorptive stripping voltammetry using a bismuth film-coated gold microelectrode arrays

P34. D. Gorylewski, K. Tyszczyk-Rotko, K. Staniec, A. Keller

State-of-art electrode materials in voltammetry ultratrace analysis of acyclovir

P35. D. Gorylewski, K. Tyszczyk-Rotko, A. Keller, K. Staniec

Fast, simple and sensitive voltammetric determination of curcumin via various sensors

P36. J. Baran, A. Drozd, A. Lassak, M. Kondracka, A. Watros

Determination of selected micronutrients in dried plants by X-ray fluorescence

P37. A. Drozd, M. Paluch, D. Kołodyńska

Application of TG and DCS analyses to evaluate thermal properties of polyacrylate-based hydrogels

P38. J. Kapelewska, U. Klekotka, Alicja Piotrowska-Niczyporuk, U. Czyżewska, M. Bartoszewicz, J. Karpińska

Abiotic and biotic degradation of polyethylene – physicochemical properties changes

P39. M. I. Bolińska, J. Piekutin, U. Kotowska

Selected emerging organic pollutants of the aquatic environment and the possibilities of their removal from the water

P40. M. Goliszek, A. Chabros, M. Drewniak, W. Sofińska-Chmiel

Exploring the versatility of xerogels based on agar and gelatin

P41. B. Podkościelna, B. Tarasiuk, K. Młynarczyk, A. Puszka, K. Dawidek, A. Gryzińska

Synthesis and characterization of fire-resistant poly(urethane-methacrylate) materials

P42. K. Ciosmak, A. Puszka, A. Gryzińska, K. Dawidek, B. Podkościelna

Preparation and study of properties of soft poly(vinyl chloride) compositions with reduced flammability

P43. K. Dawidek, A. Gryzińska

The influence of screw rotation speed of extruder to gelation process of poly(vinyl chloride)

P44. M. Rogulska, M. Maciejewska

Studies on thermal and mechanical behavior of new biphenyl - derivative thermoplastic polyurethanes

P45. E. Krystkowiak

UV-VIS spectroscopy in the study of solute-solvent hydrogen bonding of donor and acceptor types

P46. B. Pawlak, K. Tyśkiewicz, M. Gruba, A. Wziątek, M. Konkol, G. Florkowski, Z. Fekner, V. M. Jiménez, J. Verspreet
Economical aspects of food by-products valorization by supercritical fluid extraction

P47. M. Groszek, R. Łyszczek, A. Ostasz
Spectroscopic characterization of cobalt(II) complexes with 4,4'-stilbenedicarboxylic acid and N-donor ligands

P48. A. Sabitova, K. Akimzhanova, B. Mussabayeva
Chalcophile elements composition of north-east Kazakhstan Salt Lakes' mud

P49. A. Sabitova, A. Abdrakhmanova
The effect of the composition of electrolytes on the anode-free lithium-ion batteries

P50. Ł. Rusek
Technology for producing controlled-release mineral fertilizers (CRFs) using biodegradable materials in the coating process

P51. Z. Idrisheva, I. Ostolska, E. Sandybaev, E. Skwarek, G. Daumova, M. Wiśniewska
Migration of radioactive isotopes in soils at rare earth and thorium ore processing sites

P52. A. Skrzypek, B. Paw, J. Matysiak
Innovative methods for the extraction of bioactive compounds from plant sources

P53. P. Muszyński, J. Matysiak
Statistical analysis of fluorescence spectra in application to vegetable oil identification

P54. E. Skwarek, K. Misiolek, P. Skwarek
Synthesis and study of selected properties of the hydroxyapatite/TiO₂ composite

P55. E. Skwarek, O. Goncharuk, L. Nosach, P. Skwarek
Characterization of selected properties of hydroxyapatite-chitosan composites

P56. K. Wrzesińska, J. Czerwiński
Iodine contrast agents - fate and occurrence in the environment

P57. K. Wrzesińska, J. Czerwiński
Pharmacology and applications of iodine contrast agents

P58. A. Kustovska, V. Paientko, O. Pinchuk, Y. Buyan, A. Bryazun, E. Skwarek

Study of the release of chlorophylls of the Lamiaceae family by the spectrophotometric method

P59. R. Chojińska, A. Dąbrowska, R. Świsłocka, W. Lewandowski

The influence of the biodegradation process on the antioxidant properties of polyphenols

P60. N. Kowalczyk, G. Świdorski

Theoretical structural studies of picolinic acid - derived herbicides

P61. N. Kowalczyk, G. Tyniecka, E. Gołębiewska, G. Świdorski

Metal complexes with hydroxypicolinic acid - spectroscopic studies and thermal analysis

P62. R. Świsłocka, A.I. Ziniewicz

Physicochemical and biological properties of methoxybenzoic acids and their complexes with Cr(III) and Fe(III)

P63. A. Golonko, A. Szklaruk, R. Świsłocka, W. Lewandowski

Application of flavonoid potential for metal complexing in food technology and nutrition

P64. M. Samsonowicz, A. Antoniuk, A. Dowbysz

Amylase inhibitory activities of matcha tea aqueous extract

P65. U. Maciołek, J. Matusiak, E. Grządka, W. Franus

Functionalization of zeolite with cellulose ethers of different ionic nature

P66. M. Kosińska-Pezda, U. Maciołek, A. Nowicka, M. Drewniak

Synthesis, spectral characterization, and fluorescent properties in the solid state and solution of dysprosium(III) ions complex with nalidixic acid

P67. K. Tyśkiewicz, M. Gruba, M. Kondracka, A. Wziątek, M. Konkol, R. Wiejak, R. Kowalski, A. Bialek

Optimization of total cost of manufacturing of clove buds scCO₂ extracts

P68. M. Józwicki, K. Skrzypiec, W. Józwicka, P. Janusz, A. Kiczor, P. Mergo, W. Sofińska-Chmiel

Spectroscopic and microscopic studies of uv filters in selected hair cosmetics

P69. P. Kluczyński, M. Emmons-Burzyńska, E. Jędrzejczak, M. Wyskowski, M. Regel-Rosocka

Green leaching agents for sustainable copper recovery from e-waste

P70. H. Nikolaichuk, E. Fornal

The effect of dietary flavonoids on proteins in Alzheimer disease

P71. H. Nikolaichuk, E. Fornal

The effect of dietary flavonoids on post-translational modification of proteins in the context of degenerative diseases

P72. T. Wasilewski, A. Krzyszowska, Z. Hordyjewicz-Baran

Coacervate as a form of hand wash cosmetic

P73. S. Walczyński, W. Korol

Near infrared reflectance spectrometry (NIRS) method in national and international feed comparative studies

P74. A. Žugić, J. Mudrić, N. Krgović, M. Tasić Kostov, V. M. Tadić

Encapsulation of green tea leaves extract by spray drying

P75. A. Žugić, S. Mirković, M. Tomović, M. Anđić, A. Petrović, I. Nešić, V.M. Tadić

Antiinflammatory activity of Pinus Sp. isolates

P76. N. Krgović, J. Mudrić, M. Martinović, A. Žugić, V. M. Tadić

Percolation vs ultrasound assisted extraction: impact on chemical composition and pharmacological activities of Vaccinium myrtillus fruit extracts

P77. A. Jakóbk-Kolon, J. Bok-Badura, B. Sagan-Szendzielorz

Ammonia equilibrium in aqueous solution: effect of pH, salinity and temperature

P78. S. Wójcik, K. Szarłowicz

Optimization the methodology of ²¹⁰Po determination in tobacco products

P79. M.V. Quynh Nguen, A.K. Przybył

Synthesis and spectral analysis of new dapson squaramides

P80. D. Osypiuk, B. Cristóvão, A. Bartyzel

A comprehensive comparison of the spectroscopic properties of heteronuclear N,O-donor schiff base complexes

P81. D. Osypiuk, B. Cristóvão, A. Bartyzel

Analysis of selected properties of copper(II) and zinc homonuclear complexes

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New intelligent carriers of anticancer drugs - synthesis, structural, physicochemical and biological studies

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