81st International Scientific Conference of the University of Latvia 2023

# ĶĪMIJA
# CHEMISTRY

## Analītiskās un Fizikālās Ķīmijas Sekcija
## Section of Analytical and Physical Chemistry

Piektdien, **2023. gada 17. martā plkst. 9.15**, Jelgavas iela 1, 334 aud.
Fridaty, **17 March 2023, 9.15 AM**, room 334 Jelgavas iela 1, room 334.

## Programma/Programme

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| **9.00–09.15** | **Prezentāciju ievietošana konferences datorā** | |
| **Sekciju vadītāji/ Section chairs: Agris Bērziņš; Kristaps Saršūns; Agnese Arāja; Arturs Vīksna** | | |
| **09.15–09.20** | Atklāšana / Opening | |
| **09.20–09.35** | **Kristaps Saršūns**<br>*Faculty of Chemistry, University of Latvia* | Solid Solutions of Mono and Dihalogen Alkyl Phosphonium Salt Derivatives and Their Photoluminescence Properties<br>Kristaps Saršūns, Igors Kļimenkovs, Meldra Ķemere, Anatolijs Šarakovskis, Agris Bērziņš, Toms Rekis |
| **09.35–09.50** | **Reinis Kaparkalējs**<br>*Institute of Solid State Physics, University of Latvia* | Use of Raman Spectroscopy to Determine the Quality of Graphene Transferred Onto Sulphonated Poly(Ether Ether Ketone) Membranes<br>Reinis Kaparkalējs, Elīna Pajuste, Jevgēņijs Gabrusenoks, Einārs Sprūģis, Guntars Vaivars |
| **09.50–10.05** | **Dmitrijs Bogdanovs**<br>*Institute of Solid State Physics, University of Latvia* | Surface Electrochemical and Physical Properties of Ion-conducting Membranes<br>Dmitrijs Bogdanovs, Einārs Sprūģis, Guntars Vaivars |
| **10.05–10.20** | **Artjoms Jermakovs**<br>*Faculty of Chemistry, University of Latvia* | Screening of Crystallization Additives for Polymorph Control of p-Aminobenzoic Acid<br>Artjoms Jermakovs, Aina Semjonova |
| **10.20–10.35** | **Kristīne Krūkle-Bērziņa**<br>*Latvian Institute of Organic Synthesis* | Evaluation of Pharmaceutical Active Ingredient Encapsulation Process of Cyclodextrin Based Metal Organic Framework<br>Kristīne Krūkle-Bērziņa, Anatolijs Mishnev |
| **10.35–10.50** | **Edgars Mamis**<br>*Institute of Chemical Physics, University of Latvia* | Mass-Separation Of $^{44,47}$Sc Radionuclides as Molecular Beams at the Cern-Medicis Facility<br>Edgars Mamis, Cyril Bernerd, Eric Chevallay, Bernard Crepieux, Charlotte Duchemin, Patricija Kalnina, Qaiser Khan, Laura Lambert, Elina Pajuste, Maija Radzina, Ralf Rossel, Sebastian Rothe, Thierry Stora |

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| **10.50–11.10** | **Coffee break, discussions** | |
| **Otrā daļa/Second part** | | |
| **11.10–11.25** | **Romāns Pavļenko**<br>*Faculty of Chemistry, University of Latvia; BIOR* | Occurrence Studies Of Mycotoxins In Plant – Based Beverages Using Liquid Chromatography Mass Spectrometry<br>Romans Pavļenko, Zane Bērziņa, Elena Bartkiene, Vadims Bartkevičs |
| **11.25–11.40** | **Ance Bārzdiņa**<br>*Department of Pharmaceutical Chemistry, Riga Stradiņš University* | Identification And Characterization Of Fruit Extracts Using Hplc Fingerprinting Method<br>Ance Bārzdiņa, Dace Bandere, Agnese Brangule |
| **11.40–11.55** | **Krišs D. Labsvārds**<br>*Faculty of Chemistry, University of Latvia* | Evaluation Of Honey Floral Origins Using Volatile Organic Compound Composition Determined By Gas Chromatography–Mass Spectrometry<br>Krišs Dāvids Labsvārds, Ingus Pērkons, Una Briža, Arturs Viksna |
| **11.55–12.10** | **Megija Neimane**<br>*Faculty of Chemistry, University of Latvia* | Identification Of Ballpoint Pen Ink Components And Its Aging Estimation After Document Were Stored In The Dark<br>Megija Neimane, Vita Rudoviča, Vitālijs Freidenfelds, Antons Podjava |
| **12.10–12.25** | **Anna Skrastiņa**<br>*Faculty of Chemistry, University of Latvia; BIOR* | Occurrence of antibiotics and antiviral drugs in wastewater from 14 Latvian cities<br>Anna Skrastiņa, Deniss Fedorenko, Arvis Prikulis, Vadims Bartkevičs |
| **12.25–12.40** | **Deniss Fedorenko**<br>*Faculty of Chemistry, University of Latvia; BIOR* | The Applicability Of The Dilute-And-Shoot Methodology For The Determination Of Several Biomarkers And Pharmaceuticals In Wastewater Using Nanoflow Liquid Chromatography – Orbitrap Mass Spectrometry<br>Deniss Fedorenko, Antons Podjava, Arvis Prikulis, Vadims Bartkevičs |
| **12.40–13.40** | **Pusdienu pārtraukums, diskusijas/Lunch break, discussions** | |
| **Trešā daļa/ Third part** | | |
| **13.40-13.55** | **Elina Pasecnaja**<br>*Faculty of Chemistry, University of Latvia; BIOR* | Method Developement For The Determination Of Per- And Polyfluorinated Compounds In Food<br>Elina Pasecnaja, Dzintars Zacs |
| **13.55-14.10** | **Zane Bērziņa**<br>*Faculty of Chemistry, University of Latvia; BIOR* | Detection Of Mycotoxins And Pyrrolizidine Alkaloids In A Wide Variety Of Nutritional Supplements Using HPLC-MS/MS<br>Zane Bērziņa, Romans Pavļenko, Vadims Bartkevičs |
| **14.30-14.45** | **Yelyzaveta Rublova**<br>*Institute of Chemical Physics, Faculty of Chemistry, University of Latvia* | The Analysis Of Electrochemical Performance Of Nanostructured $Bi_2Se_3$ Thin Films As Anodes For Aqueous Rechargeable Lithium-Ion Batteries<br>Vitalijs Lazarenko, Yelyzaveta Rublova, Raimonds Meija, Jana Andzane, Arturs Viksna, Donats Erts |
| **14.45-15.00** | **Māris Bērtiņš** | DEVELOPMENT AND EVALUATION OF IN-HOUSE MATRIX- |

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| | *Faculty of Chemistry, University of Latvia* | Matched Standards For LA-ICP-MS Analysis Of Tree Rings In Dendrochemistry Research<br>M. Bertins, P. Paiste, L. Ostrovska, A. Ozols, V. Rudoviča, K. Kirsimae, M. Klavins, A. Viksna |
| **15.00-15.15** | **Māris Bērtiņš**<br>*Faculty of Chemistry, University of Latvia* | Enhancing Trace Element Detection Limits Using ICP-MS In $O_2$ Reaction Mode: Implications For Environmental Monitoring And Material Science<br>Irina Shtangeeva, Maris Bertins, Linda Ansone-Bertina, Agnese Brangule, Maris Klavins, Arturs Viksna |
| **15.15-15.30** | **Jana Švinska**<br>*Faculty of Chemistry, University of Latvia* | The Impact Of Arginine Phosphate-Containing Fertilizer On Growth And Nutrient Content Of Scots Pine And Norway Spruce In Latvian Forests<br>J.Svinska, M. Bertins, L. Busa, S.Zigure, D. Lazdina, K. Dumins, M. Klavins, A. Viksna |
| **15.30-15.45** | **Laima Pļavniece**<br>*Faculty of Chemistry, University of Latvia* | Characterization Of Concentration Changes Of Aerosol Particles In Indoor Air During The Burning Of Fountain Candles<br>Laima Pļaveniece, Agnese Arāja, Māris Bērtiņš, Gunita Celma |
| **15.45–16.--** | **Noslēgums, diskusijas**<br>**Conclusion, discussions** | |