
Programme of the 18th International Students Conference “Modern Analytical Chemistry”

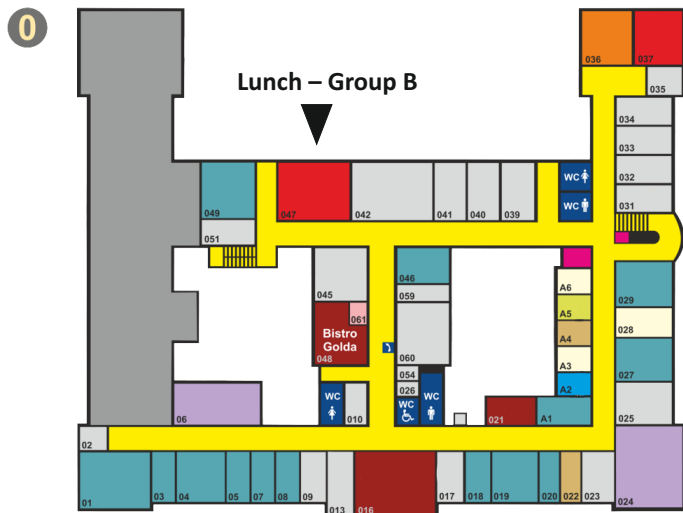
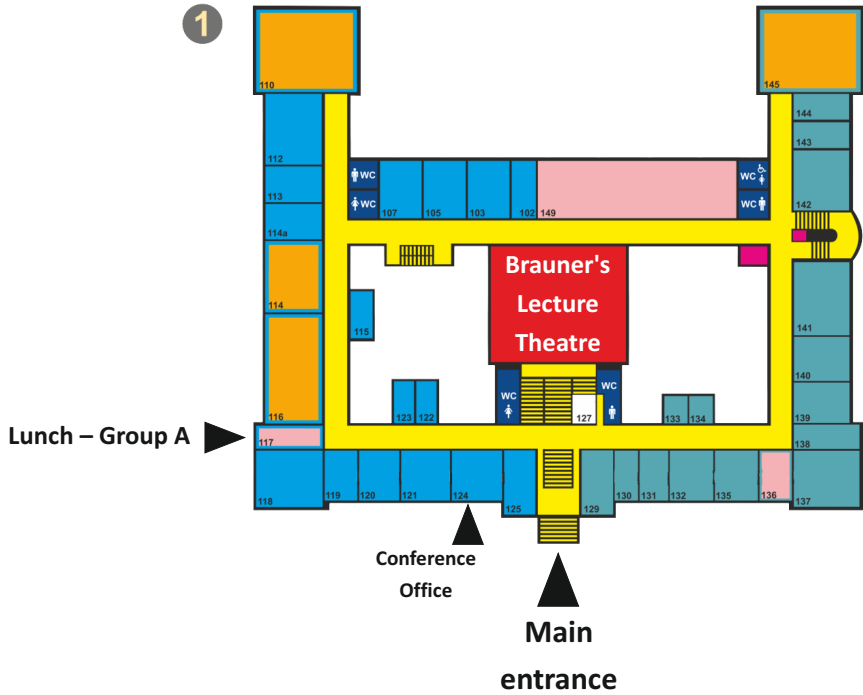
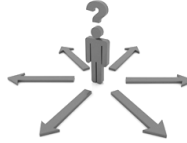
Prague, 15—16 September 2022



FACULTY OF SCIENCE
Charles University

Prague 2022

How to Find?




General Information

The **conference is held** at the Institute of Chemistry, Faculty of Science, Charles University (Hlavova 8, 128 43 Prague 2) in the main lecture hall (Brauner's Lecture Theatre).

The **registration** is located at the landing of the main staircase, across the entrance to the building. It will be open on Thursday, September 15 from 8:30 to 9:00. Later, please, contact organizers.

Oral presentations are **15 minutes** including discussion and speakers are asked to download their PowerPoint presentation on the local computer in the lecture hall before the start of the session. The letter "P" and the following number denote the page of the contribution in the *Proceedings*.

Virtual participants join the conference using Google meet, which requires only an Internet connection, a microphone, and a speaker. The link is: meet.google.com/sqb-reen-wvm. Please, keep the speakers turned off during your presentation to avoid unwanted echoes. Virtual participants are marked with a symbol  in the programme.

Each session is chaired by one selected conference participant. The task of the **chairperson** is to introduce each presenter, supervise the timing, and moderate and stimulate discussion after each presentation.

The **coffee breaks** are held in the lecture hall.

The **lunches** are served in room 047 or 117 (please, see details on page 10).

There is **WiFi connection** in the building. You could:

- a) use your eduroam connection;
- b) connect to network Konference, open your web browser and insert login and password, which you will find at the back side of your nameplate.

Sponsors

The organizers of 18th International Students Conference “Modern Analytical Chemistry” gratefully acknowledge the generous sponsorship of following companies:



www.analytika.net



www.thermofisher.cz



www.lach-ner.com



www.metrohm.com



nicoletcz.cz



www.optikinstruments.cz



www.2theta.cz



watrex.com



www.zentiva.cz

Programme

Thursday, September 15, 2022

- 8:30–9:00 **Registration of participants**
- 9:00–9:15 **Opening ceremony, welcoming address**
- Session 1** • chairperson: Martin Baroch
- 9:15–9:30 Michal Augustin (Charles University, Czech Republic):
Utilization of hybrid electrochemical DNA biosensor based on “basal-plane” pyrolytic graphite electrode for the determination of the nature of the interaction between double-stranded DNA and neonicotinoid insecticide clothianidin
- 9:30–9:45 Ewelina Maślak (Nicolaus Copernicus University in Toruń, Poland): *MALDI technique in identification of mixed bacterial cultures*
- 9:45–10:00 Eva Jeníková (Charles University, Czech Republic):
Photochemical vapor generation of transition metals from a diluted reaction medium
- 10:00–10:15 Mateusz Sugajski (Nicolaus Copernicus University in Toruń, Poland): *Characterization and application of Kujawsko-Pomorskie mineral water in the treatment approach: determination of biogents and minerals*
- 10:15–10:30 Sofiya Grybinik (Charles University, Czech Republic):
Separation of pharmaceutically active compounds by multimodal chromatography
- 10:30–10:45 **Coffee Break**
- Session 2** • chairperson: Michal Zelenský
- 10:45–11:00 Lucia Hojová (Comenius University in Bratislava, Slovak Republic): *Using HPLC with high resolution mass spectrometry for identification of degradation products of selected azo dye (P-64)*
- 11:00–11:15 Alice Tomníková (Charles University, Czech Republic): *Capillary electrophoresis laser-induced fluorescence analysis and characterization of liposomes*

- 11:15–11:30 Din Zelikovich (The Hebrew University of Jerusalem, Israel): *Shell–matrix interaction in nanoparticle-imprinted matrices: Implications for selective nanoparticle detection and separation*
- 11:30–11:45 Martin Baroch (Charles University, Czech Republic): *Electrophoresis with amperometric detection – basics and application*
- 11:45–12:00 Dominika Błońska (Nicolaus Copernicus University in Toruń, Poland): *Coupling of electrophoretic techniques with laser desorption/ionization in pathogen identification*
- 12:00–12:45 **Lunch**
- Session 3** • chairperson: Lucia Hojová
- 12:45–13:00 Filip Vymyslický (Charles University, Czech Republic): *Development and utilization of an alternative approach to study the effect of oxidation on active pharmaceutical ingredient*
- 13:00–13:15 Hila Sagi (The Hebrew University of Jerusalem, Israel): *Selective detection of gold nanorods based on their size and shape*
- 13:15–13:30 Katarína Molnárová (Charles University, Czech Republic): *The study of different solvents on glycopeptide enrichment efficiency and selectivity in solid-phase extraction*
- 13:30–13:45 Peter Čambal (Charles University, Czech Republic): *Sensing of dopamine on H-terminated and O-terminated single-crystal boron doped diamond electrodes*
- 13:45–14:00 Anna Jelínková (Charles University, Czech Republic): *HPLC method development for untargeted metabolomics of polar compounds (P-7)*
- 14:00–14:15 **Coffee Break**
- Session 4** • chairperson: Mateusz Sugajski
- 14:15–14:30 Kristýna Jelšíková (Charles University, Czech Republic): *Electrochemical analysis of cholesterol, 7-dehydrocholesterol and cholecalciferol*
- 14:30–14:45 Denis Pavelek (Comenius University in Bratislava, Slovak Republic): *Solvent impact and their elimination in liquid chromatography coupled with infrared spectroscopy for the identification of substances (P-25)*

- 14:45–15:00 Lucia Vráblová (Comenius University in Bratislava, Slovak Republic): *Study of meconium sample pretreatment for the determination of plasticizer DINCH metabolites by HPLC-MS/MS* (P-56)
- 15:00–15:15 Dominika Pindjaková (Comenius University in Bratislava, Slovak Republic): *Evaluation of the stability of biologically active chlorinated arylcarbamoylnaphthalenylcarbamates by RP-HPLC* (P-1)
- 15:15–15:30 Aliaksandra Kharoshka (University of Chemistry and Technology Prague, Czech Republic): *Optimization of LC-MS method for the determination of food additives in popular food commodities* (P-44)
- 15:30–16:00 **Sponsors' Presentation**
Ing. Matěj Stočes, Ph.D. (Metrohm Česká republika, s.r.o), followed by the visit in Metrohm demonstration laboratory (room 110)

Friday, September 16, 2022

Session 5 • chairperson: Tomáš Kouřimský

- 9:00–9:15 Natan Horáček (Charles University, Czech Republic): *In-depth analysis of electron ionization mass spectra of monoterpenes*
- 9:15–9:30 Kateřina Čokrtová (Charles University, Czech Republic): *On-capillary saccharides derivatization for capillary electrophoresis-laser-induced fluorescence*
- 9:30–9:45 Oleksandra Pryshchepa (Nicolaus Copernicus University in Toruń, Poland): *Application of multi-instrumental approach in the study of silver-lactoferrin interactions*
- 9:45–10:00 Linda Sagapova (Charles University, Czech Republic): *Trapping of volatile cadmium species on gold surfaces for atomic absorption spectrometry* (P-37)
- 10:00–10:15 Barbora Štádlarová (Charles University, Czech Republic): *Determination of cadmium by chemical vapour generation coupled with atomic fluorescence spectrometry* (P-31)

- 10:15–10:30 Adéla Pravdová (Charles University, Czech Republic):
Development of a method for separation of lipopeptides using liposomes
- 10:30–10:45 **Coffee Break**
- Session 6** • chairperson: Hila Sagi
- 10:45–11:00 Tomáš Kouřimský (University of Chemistry and Technology Prague, Czech Republic): *Formation and analysis of chlorinated processing contaminants of vegetable oils*
- 11:00–11:15  Marta Chojińska-Młynarczyk (Charles University, Czech Republic): *Electrochemical determination of illicit drugs at 3D printed electrodes (P-70)*
- 11:15–11:30 Tetiana Dyrda-Teruiuk (Nicolaus Copernicus University in Toruń, Poland): *Analytical methodology for studying the binding mechanism between silver ions and casein*
- 11:30–11:45 Eva Bláhová (Charles University, Czech Republic):
Voltammetric detection of cholesterol in milk matrices
- 11:45–12:00 Barbara Niemiec (AGH University of Science and Technology, Poland): *Characterization of electrical parameters of carbon nanomaterials for applications as contact layers in ion-selective electrodes*
- 12:00–12:45 **Lunch**
- Session 7** • chairperson: Barbara Niemiec
- 12:45–13:00 Lenka Benešová (Charles University, Czech Republic):
Electrochemical detection of mixtures of cholesterol, 7-dehydrocholesterol and cholecalciferol
- 13:00–13:15 Janik Scharf (University of Regensburg, Germany):
Interfacing mass spectrometry with electrochemistry in the field of industrial battery research (P-13)
- 13:15–13:30 Zuzana Kadlecová (Charles University, Czech Republic):
Analysis of peptides and protein digestion products by mixed-mode chromatography
- 13:30–13:45  Ozge Selcuk (Ankara University, Turkey): *Electrochemical molecularly imprinted polymer-based nanosensor for the determination of positive inotropic drug*

13:45–14:00 **Coffee Break**


Session 8 • chairperson: Janik Scharf

14:00–14:15 Ishak Kovač (Charles University, Czech Republic):

Effects of triazole fungicides in agriculture

14:15–14:30 Michal Zelenský (Charles University, Czech Republic):

Electrochemical characterization of laser-treated boron doped diamond with various sp^2 carbon

14:30–14:45  Didem Nur Ünal (Ankara, Turkey):

Investigation of the interaction between antidepressant drug paroxetine with ct-dsDNA

15:00–15:15 **Closing ceremony**

Lunch

The lunches are served in rooms number 117 or 047. Please, respect the following distribution of participants in groups.

Group A (room 117)

Baroch Martin
Błońska Dominika
Dyrda-Terniuk Tetiana
Hojová Lucia
Kharoshka Aliaksandra
Kouřimský Tomáš
Maślak Ewelina
Niemiec Barbara
Pindjaková Dominika
Pryshchepa Oleksandra
Sagi Hila (veg.)
Scharf Janik (veg.)
Sugajski Mateusz
Vrąblová Lucia
Zelikovich Din

Group B (room 47)

Augustín Michal
Benešová Lenka
Čokrtová Kateřina
Horáček Nathan
Jelínková Anna
Jelšíková Kristýna
Jeníková Eva
Kadlecová Zuzana
Kovač Ishak
Molnárová Katarína
Pravdová Adéla
Tomníková Alice
Vymyslický Filip
Zelenský Michal

Menu

Thursday, September 15, 2022

- chicken gratin steak with ham and cheese, French fries
- *vegetarian*: fried cauliflower, potatoes

Friday, September 16, 2022

- chicken fried steak, fries, cucumber
- *vegetarian*: vegetable salad with roasted cheese, dressing

