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# **Programme of the 16th International Students Conference “Modern Analytical Chemistry”**

Prague, 17—18 September 2020



**FACULTY OF SCIENCE**  
Charles University

Prague 2020




## 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 main staircase, across the entrance to the building. It will be open on Thursday, September 17 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 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. All registered participants will receive a link from the e-mail address [modern.analytical.chemistry@gmail.com](mailto:modern.analytical.chemistry@gmail.com) before the start of each day of the conference, using which they will be able to join, watch, and attend the conference. Please keep the speakers turned off during your presentation to avoid unwanted echoes. Virtual participants are marked with a symbol  in the programme.

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

The **lunches** are served in room 117 (please, see details at the page 8).

The **get-together party** will be held in room 117, on Thursday, September 17 from 15:45.

## Programme

### Thursday, September 17, 2020

8:30–9:00 **Registration of participants**

9:00–9:15 **Opening ceremony, welcoming address**

**Session 1** • chairperson: Martin Baroch

9:15–9:30 Simona Baluchová (Charles University, Czech Republic):

*Dopamine detection at antifouling conical-tip carbon electrodes (P-19)*


9:30–9:45  Vladislav Deev (Saint-Petersburg State University, Russia):

*Application of microextraction techniques combined with chromatographic methods for the analysis of complex objects (P-57)*

9:45–10:00 Martin Král (University of Chemistry and Technology Prague, Czech Republic): *The development of reference probe system for tip-enhanced Raman spectroscopy (P-63)*

10:00–10:15 Zuzana Kadlecová (Charles University, Czech Republic):


*Separation of sets of structurally diverse compounds on chromatographic columns differing in ligand and particle types*

10:15–10:30  Natalia Festinger (University of Lodz, Poland):

*Various carbon-based electrodes for determination of anticoagulants*

10:30–10:45 **Coffee Break**

**Session 2** • chairperson: Martin Král

10:45–11:00  Daniel Böhm (University of Regensburg Germany):

*The effects of linearly assembled capillaries with various inner diameters on capillary electrophoresis (P-6)*

11:00–11:15 Miroslava Jeřábková (Charles University, Czech Republic):

*Development of analytical procedures for determination of selected additives in food simulants*

11:15–11:30 Kateřina Čokrtová (Charles University, Czech Republic):



*Separation of liquid crystals using non-aqueous capillary electrokinetic chromatography (P-104)*

11:30–11:45 Ondřej Pařízek (University of Chemistry and Technology, Czech Republic): *Assessment of the impact of "Sick building syndrome" on air pollution*

11:45–12:00 Sofia Tvorynska (Charles University, Czech Republic):

*A comparative study of covalent glucose oxidase and laccase immobilization techniques at powdered supports for biosensors fabrication (P-25)*

**12:00–12:45 Lunch**


- Session 3** • chairperson: Kateřina Čokrtová
- 12:45–13:00 Lenka Benešová (Charles University, Czech Republic): *Electroanalytical methods for determination of 7-dehydrocholesterol in artificial serum* (P–146)
- 13:00–13:15  Justyna Lipińska (AGH University of Science and Technology, Poland): *Optimization of condition for cold plasma deposition of thin layers for surface modification of working electrodes* (P–129)
- 13:15–13:30 Barbora Štádlarová (Charles University, Czech Republic): *Photochemical vapour generation of bismuth coupled with atomic fluorescence spectrometry* (P–97)
- 13:30–13:45 Anton Korban (Charles University, Czech Republic): *Advanced GC-MS method for quality and safety control of alcoholic beverages* (P–135)
- 13:45–14:00  Szymon Wójcik (AGH University of Science and Technology, Poland): *Monitoring of the natural wine maturation process*





**14:00–14:15 Coffee Break**

- Session 4** • chairperson: Anna Ondáčková
- 14:15–14:30 Michal Augustín (Charles University, Czech Republic): *Novel hybrid electrochemical DNA biosensor for monitoring oxidative DNA damage via oxidation/reduction signals of low molecular weight double-stranded DNA* (P–83)
- 14:30–14:45  Martina Burešová (University of Chemistry and Technology, Czech Republic): *An investigation of various sources of background contamination in PFASs trace analysis – a trouble-shooting study*
- 14:45–15:00 Jakub Šoukal (Charles University, Czech Republic): *Photochemical vapor generation of nickel as a sample introduction for ICP-MS and atomic fluorescence spectrometry*
- 15:00–15:15  Anastasia Kravchenko (Saint Petersburg State University, Russia): *Application of covalent coatings based on imidazolium cations for separation and on-line preconcentration of basic and neutral analytes in capillary electrophoresis* (P–35)
- 15:15–15:30  Karolina Pietrzak (Maria Curie-Skłodowska University, Poland): *Uranyl ion-selective electrode with solid contact* (P–45)

**15:30–15:45 Sponsors' Presentation****15:45 Get-Together Party**

## Friday, September 18, 2020

- Session 5** • chairperson: Anton Korban
- 9:00–9:15  Kamila Morawska (University of Łódź, Poland):  
*Electrochemical sensing of the diacylhydrazine insecticide and interaction with dsDNA*
- 9:15–9:30 Anna Ondráčková (Masaryk University, Czech Republic):  
*Electrochemistry of Sudan I. and its derivatives in aqueous media* (P-110)
- 9:30–9:45  Konstantin Burkin (Lomonosov Moscow State University, Russia): *Group detection of aminoglycosides using ELISA for control of food contamination* (P-116)
- 9:45–10:00 Linda Sagapova (Charles University, Czech Republic):  
*Chemical vapor generation of cadmium for analytical atomic spectrometry* (P-90)
- 10:00–10:15 Petra Vaňkátová (Charles University, Czech Republic):  
*Use of polar organic and reversed-phase mode for UHPLC enantioseparation of liquid crystals*
- 10:15–10:30  Anna Górska (AGH University of Science and Technology, Poland): *New electrochemical sensor of prolonged application for highly sensitive levodopa determination based on RuO<sub>2</sub>-CB-Nafion modified GC electrode*
- 10:30–10:45 **Coffee Break**
- Session 5** • chairperson: Ondřej Pařízek
- 10:45–11:00  Nicole Heigl (University of Regensburg, Germany):  
*Capillary flow injection analysis with electrochemical detection for carbohydrate analysis* (P-31)
- 11:00–11:15 Denisa Folprechtová (Charles University, Czech Republic):  
*Enantioseparation of biologically active compounds on core-shell chiral columns in supercritical fluid chromatography*
- 11:15–11:30 Filip Vymyslický (Charles University, Czech Republic):  
*Canagliflozin oxidation study using electrochemical flow cell and comparison with hydrogen peroxide oxidation* (P-76)
- 11:30–11:45 Jakub Tomáško (University of Chemistry and Technology Prague, Czech Republic): *Investigating sources of contamination in the human indoor environment by endocrine disruptors*
- 11:45–12:00 Marta Choińska (Charles University, Czech Republic):  
*Determination of heavy metal poisoning antidote 2,3-dimercapto-1-propanesulfonic acid using silver solid amalgam electrode* (P-70)
- 12:00–12:45 **Lunch**

- Session 7** • chairperson: Zuzana Kadlecová
- 12:45–13:00 Martin Baroch (Charles University, Czech Republic):  
*Utilization of a carbon felt as a material for working electrodes* (P-141)
- 13:00–13:15  Nikola Lenar (AGH University of Science and Technology, Poland): *Miniaturized pH sensor with ruthenium dioxide nanoparticles*
- 13:15–13:30  Alicja Bosacka (Maria Curie-Skłodowska University, Poland):  
*FTIR analysis of organic–inorganic nanocomposite systems*
- 13:30–13:45 Katarína Molnárová (Charles University, Czech Republic):  
*Analysis of glycopeptides using hydrophilic interaction liquid chromatography*
- 13:45–14:00  Radosław Porada (AGH University of Science and Technology, Poland): *Voltammetric determination of vitamins* (P-13)
- 14:00–14:15  Kateryna Plotnikova (Ivan Franko National University of Lviv, Ukraine): *Polarographic determination of metronidazole and oxytetracycline hydrochloride in veterinary drug for honey bees* (P-51)
- 14:15–14:30 Jaromír Vyhnanovský (Charles University, Czech Republic):  
*Photochemical vapor generation of cobalt for detection by inductively coupled plasma mass spectrometry* (P-123)
- 14:30 **Closing Ceremony**

## Lunch

For the following persons, the **lunches** are served in rooms number 117:

- Augustín Michal
- Baluchová Simona
- Baroch Martin
- Benešová Lenka
- Folprechtová Denisa
- Choińska Marta
- Kadlecová Zuzana
- Korban Anton
- Král Martin
- Molnárová Katarína
- Ondáčková Anna
- Pařízek Ondřej
- Šoukal Jakub
- Tomáško Jakub
- Tvorynska Sofia
- Vaňkátová Petra
- Vyhnanovský Jaromír
- Vymyslický Filip

## Menu

### **Thursday, September 17, 2020**

- chicken slice with cheese and ham, French fries

### **Friday, September 18, 2020**

- chicken pieces, baby carrot, American potatoes



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