

## Chiranal 2016 – Final Program

Conference Site: Faculty of Science, Palacký University, 17. listopadu 12, 77146, Olomouc

### Monday (June 6th 2016)

14:00 – 17:30 Registration (Foyer, 2nd floor), individual arrival of participants and accommodation

16:00 – 16:15 Opening of conference (Aula, 2nd floor), the presence of official representatives of Palacký University, Czech Chemical Society and TEVA  
Foreword: Petr Bednář

16:15 – 17:15 *Plenary Lecture (Aula), Chairman: Karel Lemr*  
**Wolfgang Lindner** – Quinine and quinidine derivatives as exceptional chiral selector motifs for the resolution of chiral acids, bases and ampholytes by LC and SFC

17:30 – ?? Welcome Party (foyer, 6th floor)

### Tuesday (June 7th 2016)

08:30 – 09:00 Breakfast (foyer, 2nd floor)

09:00 – 11:00 *Lectures I (Aula), Chairmen: Andreas Rizzi, Petr Bednář*

09:00 – 09:30 **Salvatore Fanali** – Advances in food analysis by using capillary-LC and CEC

09:30 – 10:00 **Michael Lämmerhofer** – Lipidomics by data-independent acquisition

10:00 – 10:20 **Václav Kašička** – Capillary isotachopheresis and zone electrophoresis applied to determination of effective charge of polyelectrolytes

10:20 – 10:40 **Zeineb Aturki** – On-line sample concentration and analysis of drugs of abuse in human urine by micelle to solvent stacking in capillary zone electrophoresis

10:40 – 11:00 **Daniel Vlášil** – Strategies for LC-MS accurate screening and quantitation in food and forensics

11:00 – 11:30 Coffee break (foyer, 2nd floor)

11:30 – 13:20 *Lectures II (Aula), Chairmen: Salvatore Fanali, Petr Barták*

11:30 – 12:00 **Michal Kohout** – Enantioseparation of sulfoxides on polysaccharide-based columns - on the way to fast tunable SFC methods

12:00 – 12:20 **Gabriela Kučerová** – Amino acids and dipeptides (enanti)separations by sulfobutylether- $\beta$ -cyclodextrin in HPLC

12:20 – 12:40 **Istvan Ilisz** – Exploring the applicability of polysaccharide-based chiral stationary phases for the enantioseparation of compounds of pharmacological interest in high-performance liquid chromatography

12:40 – 13:00 **Radim Kučera** – Chromatographic behavior of boron cluster anions with respect to their chiral separation on a  $\beta$ -cyclodextrin stationary phase

13:00 – 13:20 **Stanislav Kukla** – Hot applications for upcoming hot summer days (and nights)

13:20 – 14:20 Lunch (Mensa)

**14:30 – 16:00 Poster session I and Coffee break (foyer, seminary rooms, 2nd floor)**

16:00 – 17:50 *Lectures III (Aula), Chairmen: Michael Lämmerhofer, Barbora Papoušková*

16:00 – 16:30 **Andreas Rizzi** – What we could learn during the last decade of glycomics

16:30 – 16:50 **Jan Václavík** – Exact mass multi-stage fragmentation for structural elucidation of biomarkers of inherited metabolic disorders

16:50 – 17:10 **Peter Ondra** – Death in a live show

17:10 – 17:30 **Petr Verner** – New workflows for glycoprotein characterisation using HRAM MS on Orbitrap instruments.

17:30 – 17:50 **Jaroslav Káňa** – Clarity chromatography software - versatile tool for separation scientists

18:00 – 19:00 Dinner (Mensa)

**Wednesday (June 8th 2016)**

08:30 – 09:00 Breakfast (foyer, 2nd floor)

09:00 – 11:20 *Lectures IV (Aula), Chairmen: Václav Kašička, Jan Petr*

09:00 – 09:30 **Jan Eijkel** – Chip-based capillary electrophoresis platform for point-of-care applications

09:30 – 10:00 **Fanny d'Orlyé** – Recent advances in the development of electrokinetic methodologies for the controlled surface chemistry and characterization of (bio)conjugated nanoparticles

10:00 – 10:20 **Vladimír Havlíček** – Beyond the chromatography of disease biomarkers

10:20 – 10:40 **Burcu Gumuscu** – Continuous flow DNA fractionation based on field-dependent mobility in agarose gels

10:40 – 11:00 **Lukáš Najdekr** – Influence of mass resolving power in high resolution mass spectrometry metabolomics

11:00 – 11:20 **Tomáš Korba** – CESI: direct connection of CE and MS and its use in small molecule analysis

11:30 – 13:00 **Poster session II and Coffee break (foyer, seminary rooms, 2nd floor)**

13:00 – 14:00 Lunch (Mensa)

14:00 – 17:00 Social/Sport events

– bowling (beginning at 15:00, Bowland Olomouc)

– concert Black Ladies (beginning at 15:00, Regional Museum Olomouc)

18:00 – ?? Social dinner (Foyer, 6th Floor)

## Thursday (June 9th 2016)

08:30 – 09:00 Breakfast (foyer, 2nd floor)

09:00 – 10:30 *Lectures V (Aula), Chairmen: Jan Eijkel, Vítězslav Maier*

09:00 – 09:30 **Lucie Nováková** – UHPSFC-MS/MS in doping screening analysis

09:30 – 09:50 **Volodymyr Pauk** – Supercritical fluid chromatography in analysis of new psychoactive substances

09:50 – 10:10 **Tomáš Hájek** – Easy to use two-dimensional liquid chromatography on Agilent 1290 Infinity 2D-LC Solution

10:10 – 10:30 **Daniel Esser** – Method scouting and optimisation utilising YMC's CHIRAL ART columns

10:30 – 11:00 Coffee break (foyer, 2nd floor)

11:00 – 12:10 *Lectures VI (Aula), Chairmen: Lucie Nováková, Petr Fryčák*

11:00 – 11:30 **Milan Hutta** – Recent state and possibilities of characterization and determination of operationally defined analytes in natural samples by high-performance liquid chromatography – tandem multidetection methods

11:30 – 11:50 **Jaroslava Jáčová** – Evaluation of orthogonality assessment tools in GCxGC

11:50 – 12:10 **Alexandr Muck** – Combining ion mobility separation with mass spectrometry – analytical power and improved instrument performance

12:10 – 12:20 Short break

12:20 – 13:20 *Honorary Lecture: Rudolf Zahradník Lecture Series (Aula),  
Chairman: Radek Zbořil*

**František Švec** – New trends in the preparation and application of porous polymer monoliths in chromatography

13:20 – 13:30 Closing of conference and Farewell drink

13:30 – 14:30 Lunch

1. Total antioxidant activity of the dietary supplements *Chlorella pyrenoidosa* and Green barley assayed by flow through coulometry  
*Pavlna Baizová, Barbora Hnízdová, Veronika Lorencová, Jana Skopalová*
2. Monitoring of the phenolic acids content during malting  
*Sylvie Běláková, Karolína Benešová, Jiří Šusta*
3. Determination of vitamin E content in barley and malt after treatment with low-temperature plasma discharge  
*Karolína Benešová, Sylvie Běláková, Ivo Hartman, Pavla Cibulcová, Petr Bartoš, Pavel Kříž, Hana Kábelová, Zbyněk Havelka, Andrea Bohatá*
4. Analysis of proteins using capillary isoelectric focusing in combination with mass spectrometry  
*Nikoleta Biherczová, Jozef Marák, Csilla Páger, Viktor Sándor, Ferenc Kilár, Andrea Vojs Staňová*
5. Development and validation of a highly sensitive LC-MS method for determination of checkpoint kinase 1 inhibitors in mouse plasma  
*Miroslava Bittová, Hana Kolářová, Ondřej Hylse, PrashantKumar Khirsariya, Kamil Paruch*
6. Determination of cow's and sheep's milk percentages in mixed cheese by capillary zone electrophoresis  
*Róbert Bodor, Mária Králiková, Marián Masár*
7. Chromatographic analysis of photoinitiators in packaging materials as potential contaminants of food  
*Lucie Borovcová, Klára Hejtmánková, Karel Lemr*
8. Influence of complexation of charged complexation agents with buffer constituents on buffer properties  
*Milan Boublík, Martina Riesová, Pavel Dubský*
9. *In vitro* assessment of potential cardioprotective agent – JR 311 using LC MS/MS  
*Jan Bures, Anna Jirkovska, Vit Sestak, Galina Karabanovich, Tomas Simunek, Jaroslav Roh, Petra Kovarikova*
10. The use of laser desorption/ionization mass spectrometry in a seed dormancy research  
*Monika Cechová, Petr Bednář, Petr Smýkal, Iveta Hradilová, Aleš Soukup, Anna Janská*
11. How to identify similar plasticizers?  
*Hana Dostalkova*
12. Investigation of calix[4]arene-bis(t-octylbenzo-18-crown-6) complex with cesium cation by affinity capillary electrophoresis  
*Sille Štěpánová, Bruce Moyer, Emanuel Makrlík, Václav Kašička*
13. ERLIC or just HILIC? Investigation of chromatographic behavior of trinucleotides  
*Jan Fiala, Miroslava Bittová, Jan Havliš*

14. Capillary electrophoresis with mass spectrometry detection for determination of amino acids and related compounds in biological samples  
*Monika Langmajerová, Pavla Vedrová, Zdeněk Glatz*
15. Combination of RP-HPLC and SEC using narrow-bore column for characterization of lignins isolated using Klason methods  
*Róbert Góra, Milan Hutta, Erik Beňo*
16. Comparison of separation efficiency of novel Cinchona alkaloid-based zwitterionic chiral stationary phases in the separation of trans-(—)-paroxetine and its enantiomers  
*Nóra Grecsó, Michal Kohout, Andrea Carotti, Roccardo Sardella, Benedetto Natalini, Ferenc Fülöp, Wolfgang Lindner, Antal Péter, István Ilisz*
17. Fabrication of low-cost polydimethylsiloxane master from laminating foil  
*Lenka Hárendarčíková*
18. Analysis of antioxidants in chocolate by capillary electrophoresis with online electrokinetic preconcentration  
*Kateřina Holušová, Daniel Riman, Jan Rozsypal, Jana Horská*
19. Validation of liquid chromatography method for determination of amygdalin in natural food supplements  
*Iveta Boháčová, Radoslav Halko*
20. Gel electrophoresis study of visfatin role in metabolic syndrome  
*Petr Svoboda, Edita Krizova, Magdalena Melcova, Katerina Kontrova, Vaclav Zidek, Vojtech Skop, Petr Babula, Pavel Suchy, Rene Kizek, Jarmila Zidkova*
21. Determination of stability constant of potassium-dibenzo-18-crown-6 complex in mixed hydro-organic solvents by affinity capillary electrophoresis  
*Renáta Konášová, Jana Jaklová Dyrťová, Václav Kašička*
22. Development of an RP-HPLC method for determination of salicylic acid and its metabolic intermediates from plant biosynthesis pathways  
*Eliška Kožuszniková, Miroslava Bittová, Petr Kubáň*
23. The development of fast, simple and fully validated high performance liquid chromatographic method with diode array detector for quantification of testosterone esters in an oil-based injectable dosage form  
*Petr Kozlik, Barbora Tircova*
24. Study of changes of polyphenols in red grape marcs during anaerobic digestion by liquid chromatography/high resolution mass spectrometry  
*Lukáš Kučera, Ondřej Kurka, Petr Barták and Petr Bednář*
25. The quantitative proteomic point of view on human saliva samples obtained from caries-free and caries-susceptible females  
*Lucie Kulhavá, Adam Eckhardt, Ivan Mikšík*
26. Study of analytical properties of 5-methylpyranopelargonidin and 5-methylfuro-pelargonidin and development of fast UPLC-MSMS method for their separation  
*Ondřej Kurka, Lukáš Kučera, Petr Bednář*

27. Enantioseparation of cyclic  $\beta$ -aminohydroxamic acids by high-performance liquid chromatography on zwitterionic chiral stationary phases based on Cinchona alkaloids  
*Gyula Lajkó, Tímea Orosz, Nóra Grecsó, Márta Palkó, Ferenc Fülöp, Wolfgang Lindner, Antal Péter, István Ilisz*
28. Determination of interactions of human serum albumin and its glycated form with the antidiabetic drugs by CE-FA  
*Lenka Michalcová, Zdeněk Glatz*
29. Chiral column-coupled capillary electrophoresis in hydrodynamically closed separation system hyphenated with tandem mass spectrometry for determination of drug enantiomers in biological matrices  
*Peter Mikuš, Juraj Piešťanský, Katarína Maráková, Svetlana Dokupilová*
30. Comparison of four methodological approaches for drug-protein binding constant determination  
*Hana Nevidalová, Lenka Michalcová, Zdeněk Glatz*
31. Enantiomeric separation of (R,S)-acridinium bromide with negatively charged cyclodextrin by capillary electrophoresis  
*Hana Adamusova, Nadezda Novotna, Zuzana Bosakova, Michal Dousa*
32. Determination of stability constants of [Gly6]-antamanide complexes with small cations by affinity capillary electrophoresis  
*Sachin Pangavhane, Emanuel Makrlík, Paolo Ruzza, Václav Kašička*
33. Determination of alloxan and products of its decomposition by GC/MS  
*Roman Papoušek, Lucie Borovcová, Jakub Tábořský, Jana Skopalová, Petr Barták*
34. Evaluation of the effect of flavouring additives on the content of catechins in tea samples and matrix effects using UHPLC-MS/MS method  
*Jakub Pavlík, Pavel Svoboda, Lucie Nováková*
35. Application of 3,5-bis (trifluoromethyl) phenyl isothiocyanate for biogenic amines determination in food samples  
*Anna Marlena Piasta, Aneta Jastrzębska, Sylwia Kowalska, Edward Szłyk*
36. Development and optimization of UHPSFC-MS method for high-throughput determination of tocopherols and tocotrienols in human serum  
*Veronika Pilařová, Tomáš Gottvald, Pavel Svoboda, Ondřej Novák, Lucie Nováková*
37. Development of the UPLC-DAD method for simultaneous determination of four active pharmacological ingredients of *Cannabis sativa L. extract*  
*Anna Krause, Marek Milewski, Karolina Wielgus, Milena Szalata, Ryszard Słomski, Alicja Talaczyńska, Judyta Cielecka-Piontek*
38. Comparison of HPLC-DAD and HPLC-NQAD methods for determination of cefetamet pivoxil hydrochloride  
*Jakub Dzitko, Przemysław Zalewski, Irena Oszczapowicz, Judyta Cielecka-Piontek*

39. Development and validation of fast and simple HPLC for the determination of uric acid, xanthine and hypoxanthine in human plasma and serum  
*Anna Pleskacova, Josef Tomandl, Stanislav Brejcha, Lukas Pacal, Katerina Kankova*
40. Analysis of pea seeds coat extracts by LC/MS  
*Markéta Válková, Monika Cechová, Petr Smýkal, Iveta Hradilová, Petr Bednář*
41. UHPLC-MS/MS method for analysis of sobuzoxane and its metabolite in biological materials  
*Petra Reimerová, Nikola Čalkovská, Tereza Hergeselová, Josef Škoda, Galina Karabanovich, Jaroslav Roh, Petra Kovaříková*
42. On-Line Method for Kinetic and Inhibition Studies of  $\beta$ -Secretase by Means of Capillary Electrophoresis  
*Roman Řemínek, Jan Schejbal, Zdeněk Glatz*
43. Determination of oxidative stress marker in human fluids by ITP-CZE on a microchip  
*Marina Rudašová, Marián Masár*
44. Enantioseparations of drugs and catalysts by partial-filling affinity capillary electrophoresis using helquats as chiral selectors  
*Martin Růžička, Dušan Koval, Jan Vávra, Paul J. Reyes-Gutiérrez, Filip Teplý, Václav Kašička*
45. Estimation of racemization barriers of selected helquats and their derivatives by capillary electrophoresis using sulfated cyclodextrins as chiral selectors  
*Petra Sázelová, Dušan Koval, Lukáš Severa, Paul E. Reyes-Gutiérrez, Michael Jirásek, Filip Teplý, Václav Kašička*
46. Pilot study on electrophoretic chiral separation using a combination of two capillaries with different internal diameters  
*Andrea Šebestová, Jan Petr*
47. Immobilized  $\beta$ -secretase on magnetic microparticles, a promising alternative for kinetic and inhibition assays  
*Jan Schejbal, Šárka Šefraná, Zdeněk Glatz*
48. Investigation of acid-based properties of mono- and diaza[5]helicenes by non-aqueous capillary electrophoresis and quantum chemical calculations  
*Veronika Šolínová, Sille Štěpánová, Andrej Jančařík, Jiří Klívar, Michal Šámal, Irena G. Stará, Jana Vacek Chocholoušová, Jaroslav Vacek, Ivo Starý, Václav Kašička*
49. The development of an UPLC-DAD method for determination of vardenafil hydrochloride during preformulation studies  
*Alicja Talaczyńska, Bartłomiej Kubiak, Judyta Cielecka-Piontek*
50. Analysis of ephedrine in commercial pharmaceutical products by HILIC-MS/MS  
*Barbora Tircova, Petr Kozlik*

51. Separation and determination of erythrosine and parabens in drugs by microchip and capillary electrophoresis with various detection techniques  
*Peter Troška, Ewa Poboży, Marián Masár*
52. Synthesis and screening of novel chiral stationary phases based on immobilized polyfunctional L-prolinol derivatives  
*Jiří Tůma, Michal Kohout*
53. Capillary electrophoretic separation and structure-mobility relationship study of cyclic antimicrobial peptides  
*Tereza Tůmová, Lenka Monincová, Václav Čeřovský, Václav Kašička*
54. Novel strong cation-exchange type (SCX) and zwitterion-exchange type (ZWIX) stationary phases suitable for the chromatographic separation of amines in different modes  
*Denise Wolrab, Peter Frühauf, Michal Kohout, Christopher Gerner*