



3rd STARSS Conference on Separation Science

within a research project STARSS (Specialized Team for Advanced Research on Separation Science), Reg. No. CZ.02.1.01/0.0/0.0/15_003/0000465

DAY 1: Monday 25. 11. 2019

- 08:00 – 09:00 REGISTRATION
- 09:00 – 09:15 Welcoming address
Prof. Petr Solich, Prof. František Švec, Faculty of Pharmacy, Charles University, Hradec Králové, CZ

SESSION I: CURRENT TRENDS FOR SEPARATION AND SAMPLE PREPARATION

- 09:15 – 09:45 L-01: Demands and solutions for modern LC enantiomer separations
Prof. Michael Lämmerhofer, Eberhard-Karls Universität, Tübingen, Germany
- 09:45 – 10:15 L-02: Development of 2D LC separations with focusing of transferred fractions
Assoc. Prof. Petr Česla, University of Pardubice, CZ
- 10:15 – 10:45 L-03: Imprinted polymers for biomarker assays, sensing and discovery
Prof. Börje Sellergren, Malmö University, Sweden
- 10:45 – 11:10 Coffee-break and discussion

SESSION II: ANALYSIS OF BIOMOLECULES

- 11:10 – 11:50 L-04: In-depth analysis of biopharmaceuticals using two-dimensional liquid chromatography
Dr. Koen Sandra, Research Institute for Chromatoraphy, Kortrijk, Belgium
- 11:50 – 12:20 L-05: Optimizing gradient LC conditions for profiling of biomolecules
Dr. Sebastiaan Eeltink, Vrije Universiteit Brussel, Belgium
- 12:20 – 12:40 L-06: Sense and nonsense of elevated column temperature in analyses of peptides
Dr. Juraj Lenčo, Charles University, Hradec Králové, CZ
- 12:40 – 13:00 L-07: Embracing high separation efficiency and MS response in chromatographic analysis of biopharmaceuticals
Dr. Maria Khalikova, Charles University, Hradec Králové, CZ

13:00 – 14:00 Lunch

SESSION III: SUPERCRITICAL FLUID CHROMATOGRAPHY

14:00 – 14:30 L-08: Creation of an MS compatible chiral screening step in supercritical fluid chromatography
Assoc. Prof. Debby Mangelings, Vrije Universiteit Brussel, Belgium

14:30 – 15:00 L-09: Chiral separation of new designer drugs in supercritical fluid chromatography coupled to mass spectrometry
Assoc Prof. Michal Kohout, University of Chemistry and Technology, Prague, CZ

15:00 – 15:30 L-10: Novel analytical methods for the evaluation of vitamin D and its metabolites using supercritical fluid chromatography coupled to mass spectrometry
Dr. Bárbara Socas Rodríguez, Lund University, Sweden

15:30 – 15:50 L-11: On the edge of limits – Supercritical fluid chromatography of cytokinins
MSc. Ivan Petřík, Palacky University Olomouc, CZ

15:50 – 16:20 Coffee-break and discussion

SESSION IV: CURRENT APPLICATIONS OF SEPARATION METHODS

16:20 – 16:50 L-12: Clinical applications of LC-MS
Assoc. Prof. David Friedecký, Palacky University Olomouc, CZ

16:50 – 17:20 L-13: Application of multiplexing gas chromatography to the study of volatiles emitted from lithium ion batteries
Assoc. Prof. Egon Erwin Rosenberg, Vienna University of Technology/Austrian Institute of Technology, Austria

17:20 – 17:50 L-14: Challenges in LC-MS analysis of potential diagnostic markers
Assoc. Prof. Lucie Nováková, Charles University, Hradec Králové, CZ

17:50 – 18:20 L-15: Recent advances in auxin metabolite profiling
Dr. Aleš Pěnčík, Palacky University Olomouc, CZ

18:30 – 21:00 Conference dinner



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DAY 2: Tuesday 26. 11. 2019

08:00 – 09:00 REGISTRATION

PARALLEL WORKSHOPS: FACULTY OF PHARMACY

09:00 – 11:30 W1: Supercritical fluid extraction for the isolation of natural compounds

Laboratory 913

Dr. Veronika Pilařová, Charles University, Hradec Králové, CZ

W2: 3D printing - from the idea to the object, a practical demonstration

Laboratory 914

Dr. Burkhard Horstkotte, Assoc. Prof. Petr Chocholouš, Charles University, Hradec Králové, CZ

Dr. David Jaime Cocovi-Solberg, University of Natural Resources and Life Sciences of Vienna, Austria

12:00 – 13:00 Lunch

SESSION V: EMERGING SOLUTIONS FOR SEPARATION SCIENCE

13:00 – 13:30 L-16: Are we approaching a post-monolithic era?

Assoc. Prof. Jiří Urban, Masaryk University, Brno, CZ

13:30 – 14:00 L-17: Organo-silica monolithic capillaries: Tuning preparation conditions towards optimized separation performance in reversed-phase liquid chromatography

Prof. Zuzana Zajíčková, Barry University, Miami, USA

14:00 – 14:30 L-18: Miniaturized plasma based ionization sources for mass spectrometry
Dr. David Moreno-Gonzalez, Leibniz Institute for Analytical Sciences – ISAS, Dortmund, Germany

14:30 – 15:00 L-19: Increasing sensitivity in ESI: Can anion attachment be a solution?

Dr. Ivona Lhotská, Charles University, Hradec Králové, CZ

15:00 – 15:30 Coffee-break and discussion

SESSION VI: SAMPLE PREPARATION

15:30 – 16:00 L-20: 3D-printed fluidic devices for on-line sample preparation
Prof. Manuel Miró, University of Balearic Islands, Palma de Mallorca, Spain

16:00 – 16:20 L-21: Lab-In-Tube: Exposomics revives Bead Injection
Dr. David Jaime Cocovi-Solberg, University of Natural Resources and Life Sciences of Vienna, Austria

16:20 – 16:40 L-22: From ionic liquids to nanoscale GUMBOS: Synthesis and potential applications
MSc. Ana Azevedo, Universidade do Porto, Portugal

16:40 – 17:00 L-23: Nanofibers for solid phase extraction: Examples of application in on-line and off-line systems
Dr. Ivana Horstkotte Šrámková, Charles University, Hradec Králové, CZ

17:00 – 18:00 Farewell drink

Venue: Nové Adalbertinum, Hradec Králové, Czech Republic

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