



## 6<sup>th</sup> 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 17. 10. 2022

08:00 – 09:00 REGISTRATION

09:00 – 09:20 **Welcoming address**  
*Prof. Petr Solich, Prof. František Švec, Prof. Lucie Nováková*  
*Assoc. Prof. Jaroslav Roh, the dean of the Faculty of Pharmacy*  
Faculty of Pharmacy, Charles University, Hradec Králové, Czech Republic

#### SESSION I: IMPORTANCE OF SEPARATION SCIENCE FOR CLINICAL APPLICATIONS

09:20 – 10:00 **L-01: UHPSFC/MS as a powerful tool for high-throughput lipidomic quantitation in cancer screening**  
*Prof. Michal Holčápek, University of Pardubice, Czech Republic*

10:00 – 10:40 **L-02: Selected ion flow tube mass spectrometry, SIFT-MS, analyses of volatile metabolites in exhaled breath**  
*Prof. Patrik Španěl, J. Heyrovský Institute of Physical Chemistry, Prague, Czech Republic*

10:40 – 11:10 **Coffee-break and discussion**

#### SESSION II: BIOPHARMACEUTICALS

11:10 – 11:50 **L-03: Simplifying the characterization of complex biopharmaceutical products through the use of ultra-short columns or multi-isocratic elution mode**  
*Dr. Davy Guillarme, University of Geneva, Switzerland*

11:50 – 12:20 **L-04: Analysis of therapeutic proteins by multidimensional LC: How far can we go?**  
*Dr. Valentina D'Atri, University of Geneva, Switzerland*

12:20 – 12:40 **L-05: pyroLC: online thermal decomposition of proteins as a tool for ultra-fast bottom-up proteomics**  
*Dr. Juraj Lenčo, Charles University, Hradec Králové, Czech Republic*

12:40 – 13:00 **L-06: RPLC-UV and HILIC-UV characterization of home-made ramucirumab-based antibody-drug conjugate**  
*Denis Naplekov, Charles University, Hradec Králové, Czech Republic*

13:00 – 14:00 **Lunch**

### SESSION III: 2D SEPARATIONS

- 14:00 – 14:40      **L-07: What can we expect from LC x LC compared to conventional 1D-LC**  
*Prof. Sabine Heinisch, Université Claude Bernard Lyon 1, Lyon, France*
- 14:40 – 15:20      **L-08: Modelling of analyte profiles and band broadening generated by interface loops used in multi-dimensional liquid chromatography**  
*Prof. Ken Broeckhoven, Vrije Universiteit Brussel, Belgium*
- 15:20 – 15:50      **L-09: Off-line LC x SFC in the prospect of upgrading natural or recycled products**  
*Dr. Karine Faure, Université Claude Bernard Lyon 1, Lyon, France*
- 15:50 – 16:20      **L-10: Two-dimensional liquid chromatographic separations of complex samples of industrial products and intermediates**  
*Assoc. Prof. Petr Česla, University of Pardubice, Czech Republic*
- 16:20 – 16:50      **Coffee-break and discussion**

### SESSION IV: IMPORTANCE OF STEROIDS

- 16:50 – 17:30      **L-11: An image of the future of steroid biochemistry**  
*Prof. Ruth Andrew, University of Edinburgh, UK*
- 17:30 – 18:00      **L-12: Ecdysterone metabolism: A holistic view on compound identification for doping control**  
*Prof. Maria Kristina Parr, Freie Universität Berlin, Berlin, Germany*
- 18:00 – 18:30      **L-13: New liquid chromatography-tandem mass spectrometry method for targeted profiling of steroids in mouse plasma**  
*Tatána Gazárková, Charles University, Hradec Králové, Czech Republic*
- 18:30 – 19:30      **Welcome drink**



## 6<sup>th</sup> 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 2: Tuesday 18. 10. 2022

08:00 – 09:00 REGISTRATION

#### SESSION V: SUPERCRITICAL FLUID CHROMATOGRAPHY AND EXTRACTIONS

09:00 – 09:30 **L-14: Supercritical fluid extraction and chromatography in life science applications**  
*Prof. Charlotta Turner, Lund University, Lund, Sweden*

09:30 – 10:00 **L-15: Supercritical fluid chromatography – tandem mass spectrometry for analysis of vitamin D metabolites in biological samples**  
*Dr. Margareta Sandahl, Lund University, Lund, Sweden*

10:00 – 10:30 **L-16: The effect of make-up solvent composition on responses in SFC-MS: Electrospray vs UniSpray**  
*Dr. Kateřina Plachká, Charles University, Hradec Králové, Czech Republic*

10:30 – 11:00 **L-17: UHPSFC-MS/MS versus 2D-UHPLC-MS/MS in chiral separation of Propranolol and its Hydroxy Metabolites**  
*Lukas Harps, Freie Universität Berlin, Berlin, Germany*

11:00 – 11:30 **Coffee-break and discussion**

#### SESSION VI: COLUMN TECHNOLOGY

11:30 – 12:10 **L-18: Hypercrosslinked monolithic stationary phases in proteomics**  
*Assoc. Prof. Jiří Urban, Masaryk University, Brno, Czech Republic*

12:10 – 12:40 **L-19: Guidelines for tuning the macropore structure of monolithic columns for high-performance liquid chromatography**  
*Dr. Sebastiaan Eeltink, Vrije Universiteit Brussel, Belgium*

12:40 – 13:10 **L-20: Strategies and chemistry in column development**  
*Assoc. Prof. Michal Kohout, University of Chemistry and Technology, Prague, Czech Republic*

13:10 – 14:30 **Lunch**

## SESSION VII: RETENTION MECHANISMS AND STATIONARY PHASES

- 14:30 – 15:00      **L-21: Understanding the mechanism, advantages and limitations of hydrophilic interaction liquid chromatography**  
*Prof. David McCalley, University of West England, UK*
- 15:00 – 15:30      **L-22: Study of molecular structures through retention mechanisms in liquid chromatography: New trends and applications**  
*Dr. Jean-Christophe Garrigues, Paul Sabatier University - Toulouse III, Toulouse, France*
- 15:30 – 16:00      **L-23: Problems of stationary phases in SFC**  
*Prof. Lucie Nováková, Charles University, Hradec Králové, Czech Republic*
- 16:00 – 16:30      **L-24: The chromatographic behaviour of pharmaceuticals on stationary phases based on metal oxides**  
*Assoc. Prof. Radim Kučera, Charles University, Hradec Králové, Czech Republic*
- 16:30 – 17:00      **Coffee-break and discussion**

## SESSION VIII: SAMPLE PREPARATION AND APPLICATIONS

- 17:00 – 17:30      **L-25: Glucosinolate profiling in Brassicaceae family: instrumental analysis and biological application**  
*Dr. Iva Pavlovic, Palacký University, Olomouc, Czech Republic*
- 17:30 – 18:00      **L-26: Flow programming for the development of online solid-phase extraction**  
*Assoc. Prof. Petr Chocholouš, Charles University, Hradec Králové, Czech Republic*
- 18:00 – 18:30      **L-27: Automated tandem homogeneous liquid-liquid extraction and centrifugation-less deproteination for complex sample analysis on HPLC**  
*Dr. Burkhard Horstkotte, Charles University, Hradec Králové, Czech Republic*
- 19:00 – 22:00      **Conference dinner**



## 6<sup>th</sup> 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 3:                    Wednesday 19. 10. 2022**

### WORKSHOPS: FACULTY OF PHARMACY

- 08:00 – 10:30                    **W1: Supercritical fluid extraction of polar and nonpolar compounds from Eucalyptus sp.**
- Laboratory 916, 8th floor, Faculty of Pharmacy  
*Dr. Veronika Pilařová*, Charles University, Hradec Králové, Czech Republic
- W2: MetAmino<sup>®</sup> Kit – simple and easy sample preparation method for your LC-MC or GC-MS analysis**
- Student's Laboratory, 3rd floor, Faculty of Pharmacy  
*Ing. Jana Volková*, Chromservis, Czech Republic
- 10:30 – 11:00                    **Coffee-break and discussion**
- 11:00 – 13:30                    **W3: Who will help you with sample prep and liquid handling?**
- Student's Laboratory, 4th floor, Faculty of Pharmacy  
*Dr. Martina Riesová*, Waters, Prague, Czech Republic
- 13:30 – 14:30                    **Lunch**
- 14:30 – 17:00                    **W4: Practical application of nanofibers for advanced extraction approaches in chromatography**
- Student's Laboratory no. 524, 4th floor, Faculty of Pharmacy  
*Prof. Dalibor Šatínský, Dr. Ivona Lhotská*  
Charles University, Hradec Králové, Czech Republic
- 17:00 – 18:00                    **Coffee-break and discussion**

**Venue:** Hradec Králové, Czech Republic

This conference is supported by the STARSS project  
(Reg. No. CZ.02.1.01/0.0/0.0/15\_003/0000465) co-funded by the European Union.



EUROPEAN UNION  
European Structural and Investment Funds  
Operational Programme Research,  
Development and Education

