



Letter of Support

Reference	Contact person	Date
Franchina_SL1	Prof. Dr. Sebastiaan Eeltink Department of Chemical Engineering seeltink@vub.be +32 (0)2 629 3324	June 12, 2020

To Whom It May Concern,

As chairman of the 16th International Symposium on Hyphenated Techniques in Chromatography and Separation Technology, held from 29-31 January 2020 in Ghent, Belgium, I hereby state that Dr. Flavio Antonio Franchina attended the conference as an invited lecturer for an oral presentation on "*Development of an untargeted multi-class method for cannabis products*". Furthermore, Dr. Franchina was an invited lecturer for the HTC-16 short course on Cannabis Analysis.

As Editor-in-Chief of Analytical Science Advances (Wiley-VCH) I also hereby state that Dr. Franchina has recently joined our Advisory Board. He has also been invited to act as a guest editor for the journal on a special issue on "*Gas Chromatography (GC) and GCxGC technology and applications*".

Sincerely Yours,

Prof. Dr. Sebastiaan Eeltink

Department of Chemical Engineering, Vrije Universiteit Brussel.
Editor-in-Chief of Analytical Science Advances, Wiley-VCH.
Conference Chair of the 16th International symposium on Hyphenated Techniques in Chromatography and Separation Technology.

HTC-16

29-31 January 2020
Ghent, Belgium



16th International Symposium on Hyphenated Techniques in Chromatography and Separation Technology

<http://www.htc-16.com>



FINAL PROGRAM



Scientific committee:

Gert Desmet (chair), Brussel, BE
Davy Guillarme, Genève, CH
František Švec, Praha, CZ
Jean-François Focant, Liège, BE
Peter Schoenmakers, Amsterdam, NL
Paola Dugo, Messina, IT
Valérie Pichon, Paris, FR
Michael Lämmerhofer, Tübingen, DE
John Langley, Southampton, UK
Deirdre Cabooter, Leuven, BE
Ken Broeckhoven, Brussel, BE

Organizing committee:

Sebastiaan Eeltink (chair), Brussel, BE
Frédéric Lynen (co-chair), Gent, BE
Ken Broeckhoven, Brussel, BE
Deirdre Cabooter, Leuven, BE
Rudy Senten, KVCV, BE
Joeri Vercammen, Interscience, BE
John Langley, Southampton, UK
Jelle De Vos, Brussel, BE

Industry advisory board

Joeri Vercammen (chair), Interscience, BE
Achim Treumann, KBI Biopharma, BE
Hamed Eghbali, DOW, NL
Peter Van Broeck, Johnson & Johnson, BE
Hans-Gerd Janssen, Unilever, NL
Erwin Kaal, DSM, NL
Koen Sandra, RIC, BE



Parallel sessions

Room : Refter (ground floor)

RSC SEPARATION SCIENCE GROUP: HIGH-THROUGHPUT ANALYSIS

Session Chair: Bob Boughtflower (University of Edinburgh, UK and GSK, UK)

- 14:15 **KL17 – HTA and the clinical world**
Lewis Couchman (Analytical Services International, UK)
- 14:45 **KL18 – The robot in your lab; Friend or Foe?**
Kathy Ridgway (Anatune, UK)
- 15:15 **OC17 – Will bioanalysis surrender to the robotic army?**
Arundhuti Sen (GSK, UK)
- 15:35 **OC18 – Capillary electrophoresis: speed and selectivity for high-throughput analysis**
Gordon Ross (Agilent Technologies, UK)

Room : Rector Vermeylen (2nd floor)

LC×LC(×LC) AND COUPLED COLUMNS

Session Chair: Frank Steiner (Thermo Fisher Scientific, DE)

- 14:15 **KL19 – Advantages and limitations of HILIC in the second dimension of comprehensive two-dimensional liquid chromatographic separations: A kinetic evaluation**
Andre de Villiers (Stellenbosch University, SA)
- 14:45 **TU08 – Approaches towards method development in two-dimensional HPLC**
Monika Dittmann (Agilent Technologies, DE)
- 15:15 **OC19 – Development of Microfluidic Chip Technology for Spatial Three-Dimensional Liquid Chromatography**
Jelle De Vos (Vrije Universiteit Brussel, BE)
- 15:35 **OC20 – From batch to continuous processing: purification of a bioactive peptide by means of Multicolumn Countercurrent Solvent Gradient Purification**
Martina Catani University of Ferrara, IT)

Room : Priorzaal (1st floor)

GAS CHROMATOGRAPHY AND DATA ANALYSIS

Session Chairs: Gabriel Vivo-Truyols (Tecnometrix, ES)

- 14:15 **TU09 – Exotic fragrances of Namibia: Application of current fragrance analysis trends**
Stefan Louw (University of Namibia, NA)
- 14:45 **YES16 – Development of an untargeted and targeted multi-class method for cannabis products**
Flavio Franchina (Université de Liège, BE)
- 15:00 **YES17 – European lacquer in Context. Strategies to find THM-GC/MS resin biomarkers and application on historical lacquered objects**
Louise Decq (KIK-IRPA, BE)
- 15:15 **YES18 – Optimization of untargeted screening workflow for the characterization of lung fluid samples**
Pierre-Huges Stefanuto (Université de Liège, BE)
- 15:30 **FP13 – Revealing the reactivity of isomers of bio-oils by GC coupled to FTIC resonance mass spectrometry**
Diana Catalina Palacio Lozano (University of Warwick, UK)
- 15:35 **FP14 – Multivariate Calibration of Chromatographic Fingerprints to Predict Antioxidant Potential in Argan kernels**
Mourad Kharbach (Vrije Universiteit Brussel, BE)
- 15:40 **FP15 – KairosMS: A new tool for the processing of hyphenated ultrahigh resolution mass spectrometry data**
Hugh Jones (University of Warwick, UK)
- 15:45 **FP16 – Mass spectrometry with operation at constant ultrahigh resolution (OCULAR)**
Latifa AlOstad (University of Warwick, UK)

15:55 Coffee Break & Exhibition and Posters (even numbers)

Room : Refter (ground floor)

HTC TUBE

Session Chairs: Frederic Lynen (Ghent University, BE) / Joeri Vercaemmen (Ghent University, BE)

- 17:00 To be announced

19:00 Aperitif at the Monasterium PoortAckere

20:00 HTC-16 Conference Dinner

YES-16**Development of an untargeted and targeted multi-class method for cannabis products**

Flavio Antonio Franchina, Lena Dubois, Jean-Francois Focant

University of Liege, Belgium

The recent trend towards the commercialization of legal cannabis in several countries has generated novel opportunities to understand the potential benefits for medical purposes. Together with the growing need for safer cannabis products, the quality control inspections and methods for their characterization increased exponentially. Generally, quality control analyses include

multi-chemical class testing for potency, terpenes, pesticides, residual solvents, heavy metals, mycotoxins and microorganisms.

In this presentation, the importance of the profiling and the determination of terpenes, cannabinoids, and pesticides will be discussed. In addition, a unified method for their qualitative and quantitative analysis in a single analytical run will be provided. The method involves a sorption-based extraction followed by comprehensive two-dimensional gas chromatography coupled to (low- and high-resolution) mass spectrometry, i.e. GC×GC-MS. The extraction method was optimized to have optimal recovery for the chemical classes of interest. A factorial design of experiments was used to determine the most advantageous combination of the extraction conditions (solvent type, salt addition, extraction time and temperature).

The overall method was validated on a variety of recreational cannabis flowers and cannabis oil samples. It will be demonstrated that the method allowed to efficiently highlight the difference between the various cannabis strains based on the multi-chemical class information provided.