

Monday, 19 September 2016

Afternoon

**ANALYTICS, AUTHENTICITY, LIPIDOMICS**

Breakout Room "H. van Eyck"

Chair: Anna Nicolaou and Bruno Demeulenaer

- 13:30 **KEYNOTE LECTURE**  
Oxidized Phospholipids: Biological Importance and Ox-lipidomic Analysis  
C.M. Spickett, Birmingham/GB
- 14:10 **Multidimensional Lipidomic Approach Based on UHPLC-UV-ion Mobility-MS for the Screening of Carotenoids**  
G. Astarita, Washington/US, G. Paglia, Bolzano/IT, T. Pacini, W. Fu, S. Gudmundsson, Reykjavik/IS, A.E. Chiaravalle, Foggia/IT, S. Brynjolfson, B.O. Palsson, Reykjavik/IS
- 14:30 **Reverse Changes in Duodenal and Plasma Bile Acid Concentrations in Severe Chronic Pancreatitis Patients and Healthy Volunteers during a Meal**  
F. Carriere, Marseille/FR, L. Humber, D. Rainteau, Paris/FR, N. Tuvignon, Marseille/FR, C. Wolf, P. Seksik, Paris/FR, R. Laugier, Marseille/FR
- 14:50 **Application of High Performance-TLC Coupled to Electrospray (ESI) Ionization Tandem Mass Spectrometry for Structural Analysis of Complex Lipid-based Samples**  
V.L. Cebolla, Zaragoza/ES, C. Jarne, L. Membrado, M.P. Lapieza, M. Savi on, J. Orduna, Zaragoza/ES
- 15:10 Coffee Break

**OLIVE OIL AND OTHER VIRGIN OILS**

Quality of Cold Pressed Oils

Breakout Room "H. van Eyck"

Chair: Lanfranco Conte and Ramon Aparicio

- 15:40 **KEYNOTE LECTURE**  
Innovative Instrumental Approaches to Monitor Olive Oil Quality  
T.G. Toschi, Bologna/IT
- 16:20 to be announced
- 16:40 **Evaluation of the Phenolic Content of Virgin Grape Seed Oils From Different Origins**  
N. Mulinacci, Florence/IT, M. Arlorio, Torino/IT, L. Cecchi, M. Innocenti, Florence/IT
- 17:00 **Some Physical and Chemical Properties of Cold Pressed Oils from Different Poppy Seed Varieties in Turkey**  
Z. Aksoylu, Manisa/TR, P. G n  Erg n l, Manisa/TR
- 17:30 **POSTER SESSION**



A Zucchi extra vergin olive oil is created from the art of blending: the Italian expertise with which our blendmasters select and combine olive oils from different origins to bring life to something that didn't exist before.

Discover the full product range on [zucchi.com](http://zucchi.com)



The art of blending



*The Desmet Ballestra Group has sold,  
installed and commissioned over  
7,500 process units in 150 countries  
on 5 continents.*

Oils, Fats & Oleo technologies

Detergents, Surfactants & Chemical plants

Oilseeds & Animal Feed equipment



*Science behind Technology*

[www.desmetballestra.com](http://www.desmetballestra.com)

# 14<sup>th</sup> Euro Fed Lipid Congress

18-21 September 2016 · Ghent · Belgium

hosted by  
Benelux Lipid Network

## FATS, OILS AND LIPIDS:

**Innovative Approaches towards  
a Sustainable Future**



## PROGRAMME

[www.eurofedlipid.org/meetings/ghent2016](http://www.eurofedlipid.org/meetings/ghent2016)

# **Application of High Performance-TLC coupled to Electrospray (ESI) Ionization Tandem Mass Spectrometry for structural analysis of complex lipid-based samples**

Vicente L. Cebolla<sup>1</sup>, Carmen Jarne<sup>1</sup>, Luis Membrado<sup>1</sup>, María P. Lapieza<sup>1</sup>, María Savirón<sup>2</sup>, Jesús Orduna<sup>3</sup>

<sup>1</sup>Instituto de Carboquímica-CSIC, Miguel Luesma 4,50018 Zaragoza Spain

<sup>2</sup>CEQMA-CSIC, <sup>3</sup>ICMA-CSIC, Faculty of Sciences, University of Zaragoza, 50009, Zaragoza, Spain

HPTLC experienced a great instrumental development in recent years. The modularity of its basic steps, i.e. sample application, chromatographic development and detection, their automation and computer-control confer HPTLC a high degree of flexibility and reliability. A HPTLC-based hyphenation system has been used here which consists of: a spray-on sample applicator; Automated Multiple Development (AMD), a technique that uses solvent gradient elution; densitometric detection (UV and fluorescence); and on-line coupling with an ESI-quadrupole ion trap mass spectrometer. Therefore, MS/MS ( $MS^n$ ) spectra of lipids can be obtained directly from the chromatographic plate through automatic extraction and direct transfer of separated peaks using an elution-based interface.

In this talk I will present two examples to illustrate its application. Conditions have been selected for obtaining composition profiles and structural individual identification of mono-, di- and tri-acylglycerides through their MS/MS spectra (in ESI-positive ion mode) and fatty acids (in ESI-negative ion mode), as impurities of FAME biodiesel.

Likewise, using the above system, molecular species of sphingomyelins (SMs) have been unequivocally identified in human plasma (ESI-positive). SMs are the most abundant sphingolipids in human plasma and their molecular species are related to Niemann-Pick disorder, a Lysosomal Storage Disease.

The fact that only the desired peaks on the plate can be transferred to the MS instrument is of particular interest for obtaining rapid relevant information about the sample. This, together with the high sample throughput and low solvent consumption leads to significant savings in the cost of analysis.

