## XV Reunión Científica de la SECyTA y VII Reunión Nacional de la SEEM

***Breath Analysis: Transitioning from Bench to Bedside***
**Pablo Martínez-Lozano** Sinués. ETH Zurich, Switzerland

It was during the talk of Dr. Pablo Martínez Lozano that I first heard about "Breath Analysis". Breath contains metabolites which may reflect the biochemical activity of a plant, animal or subject. Compared to the most used matrices (urine and blood), breath has been less explored. However, it contains information that could be relevant to some studies.

One part of the presentation focused on real-time analysis in the disease diagnosis and drug monitoring fields. First of all, the source of the instrument was modified in order to be able to introduce the breath samples into the mass spectrometer. The applications of this technique were very diverse; from subjects suffering obstructive sleep apnea (OSA) to levels of ketamine and its metabolites in mice. Apart from this, experiments performed in plants were also shown.

Breath analysis presents several advantages: real-time analysis of exhaled breath metabolites, non-invasive technique, can reach ppt levels and could be useful for compound identification. However, it also has limitations: not transportable, not useful for quantification and limited to volatile compounds.

***Lipidomics Based On High Resolution Mass Spectrometry: A Novel Strategy Employed In Food And Nutrition Research***
**Jana Hajslova**. Institute of Chemical Technology, Prague, Czech Republic

Dr. Jana Hajslova had a very interesting presentation on Lipidomics which was a quite new topic for me. Lipids are important for a lot of functions in living organisms. They represent a large and diverse group of compounds and their study has had an exponential growth during the last years.
The implementation of instruments based on advanced chromatographic methods coupled to high resolution mass spectrometry (HRMS) has contributed in the development of new strategies.

The presentation consisted of several case studies of challenging lipid analysis. One of the examples was about authentication of olive oil and detection of fraud. The steps to follow in these cases are extraction (with the aim of covering the maximum number of compounds), determination, classification and the detection of fraud.

**Georgina Balcells Aribau**