November 3, 2021 (10:00–10:45, CET)

SepSolve Analytical

VENDOR WEBINAR:

Uncovering Chemical Markers of Food Quality and Authenticity

Finding the needle in the haystack: Non-target GC×GC–TOF MS workflows for food quality and authenticity evaluation

Dr. Laura McGregor, SepSolve Analytical, UK

Reliable analysis of foods and beverages is vital for quality control, new product development and in authenticity studies.

In this presentation, we will describe the use of automated sample extraction and enrichment combined with GC×GC–TOF MS for comprehensive non-target screening of aroma volatiles from food and beverages.

Additionally, we will demonstrate the use of simple data analysis workflows to automatically discover significant differences between complex aroma profiles and allow meaningful conclusions to be drawn in quality and authenticity studies.

Comprehensive volatilome profiling by TD–GC×GC–TOF MS for the determination of fruit quality

Dr. Natasha Spadafora, University of Calabria, Italy

The fruit quality (FRUITY) project aims to provide new predictive technologies and a better understanding of physiological changes in fruit for objective quality assessment of fruit quality during post-harvest storage.

The project uses a multi-trait approach - including sensory profiling, monitoring of the volatile organic compounds (VOCs) produced by the fruit and investigation of biochemical reactions - with the overall goal of providing the industry with diagnostic kits for the evaluation of fruit quality during post-harvest storage

In this presentation, we will focus on the VOC profiles from peach cultivars. Here, the enhanced separation and high sensitivity of TD–GC×GC–TOF MS enabled 115 VOCs to be identified, 15 of which were used to distinguish between the peach cultivars. We will also show how individual cultivars reacted differently to cold storage, with different changes in VOC profiles seen after seven days of storage (the typical time taken for shipping from southern Italy to northern Europe).