

November 5, 2026 (13:30-14:15)



VENDOR SEMINAR:

Revealing more from olive oil: Advanced GC×GC-TOFMS workflows for contaminants, MOSH/MOAH, quality, and authenticity

Olive oil is a highly complex matrix in which contaminants, authenticity markers, volatile compounds, sterols, wax esters, and mineral oil hydrocarbons may coexist across a wide concentration range. This vendor seminar will explore how comprehensive two-dimensional gas chromatography coupled with time-of-flight mass spectrometry can provide greater separation, identification confidence, and chemical insight than conventional analytical approaches.

Together, the presentations will demonstrate how advanced GC×GC-TOFMS workflows can reveal a more complete picture of olive oil composition and support more informed decisions in food safety, quality, and authenticity analysis.

Latest LECO innovations for complex food analysis

Dr. Tomáš Kovalczuk, LECO, Czech Republic

This presentation will introduce LECO's latest Separation Science innovations for complex food analysis. The Pegasus® BTX combines exceptional sensitivity with rapid full-spectrum acquisition, supporting trace-level detection of contaminants, residues, packaging migrants, off-flavours, and authenticity markers. The Pegasus® HRT, equipped with the second-generation Multi-Mode Source, provides enhanced molecular-ion information and complementary electron and chemical ionisation without the need for hardware changes. Together, these technologies enable faster, deeper, and more reliable insights into food safety, quality, and authenticity.

MOSH/MOAH in olive oil: Regulatory perspectives and advanced characterisation by GC×GC-TOFMS

Dr. Wenceslao Moreda, Instituto de la Grasa, Spanish National Research Council (CSIC), Spain

Mineral oil saturated and aromatic hydrocarbons include potentially harmful compounds that may occur in food products. This presentation will review the current regulatory situation, EFSA recommendations, and future prospects for mineral oil hydrocarbon contamination, with particular attention to the olive oil sector. It will also discuss the limitations of conventional LC-GC-FID analysis and explain how GC×GC provides the separation and TOFMS the identification capabilities required for more detailed investigation of complex MOSH/MOAH results.

Exploiting the potential of GC×GC-TOFMS for extra-virgin olive oil analysis

Dr. Micaela Galletta, Department of Chemical, Biological, Pharmaceutical and Environmental Sciences, University of Messina, Italy

This presentation will explore the potential of GC×GC-TOFMS for the detailed analysis of extra-virgin olive oil. A dilute-and-inject approach will be presented as a simple and effective strategy for investigating multiple chemical classes within a single analytical workflow, including volatile compounds, sterols, wax esters, and contaminants. The presentation will highlight applications in food authenticity, quality assessment, contamination studies, and volatile fingerprinting, while also considering current analytical challenges and future perspectives.