

Agilent | Lunch Presentation



Event Details

Metabolomics 2026

Date: June 23th, 2026

Time: 12:20 p.m. - 1:20 p.m.

Speaker:



Dra. Coral Barbas Arribas
Coordinator of the CEU Madrid.

Join Agilent's Lunch Presentation at Metabolomics 2026

Title: From Targeted analysis of VOCs to Lipidomics and Data Integration: The CEMBIO Experience with Agilent Platforms in Translational Metabolomics

The effective application of metabolomics in both discovery-driven research and translational studies requires robust analytical platforms, reliable quantification strategies, and efficient data integration workflows. In this context, the Centro de Metabolómica y Bioanálisis (CEMBIO) has developed a comprehensive technological ecosystem based on Agilent platforms, enabling high-quality metabolomic analyses from targeted to large-scale lipidomic studies, supported by advanced data management solutions.

In this lunch seminar, we will present an overview of CEMBIO's experience in implementing complementary metabolomics strategies using Agilent technologies, highlighting their application in biomedical research.

First, Dr. Antonia García will present target approaches for the analysis of short-chain organic acids using solid-phase microextraction coupled to gas chromatography–mass spectrometry (SPME-GC–MS). These methodologies enable sensitive and reproducible quantification of volatile and semi-volatile metabolites in biological samples, with relevance for studying host–microbiome interactions and metabolic dysregulation in disease. The robustness and minimal sample preparation of SPME-GC–MS make it a valuable tool for clinical-oriented metabolomics.

Next, Dr. Coral Barbas will discuss lipidomics workflows developed at CEMBIO using liquid chromatography–mass spectrometry (LC–MS) platforms. Lipids play essential roles in energy metabolism, cell signaling, and structural organization, and their dysregulation is associated with numerous pathologies, including metabolic and cardiovascular diseases. The presentation will focus on analytical strategies for comprehensive lipid profiling, emphasizing annotation and coverage.

Finally, Dr. Francisco J. Rupérez will introduce CEMBIO's data management and integration framework (OpenLab ECM-XT), designed to handle the increasing complexity of large metabolomics datasets. This platform ensures data integrity and quality control throughout all the stages of the data lifecycle, facilitating the integration across different analytical techniques, and enabling more efficient extraction of biological insights. The importance of standardized workflows and data traceability will be highlighted as key elements for reproducibility and translational impact.

References:

Antonia García; Francisco J Ruperez; Coral Barbas

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