

## **PhD Advanced Course: Advanced Analytical Tools - Multiple Applications for Mass Spectrometry (4<sup>th</sup> Edition)**

### **Provisional Program (to be confirmed)**

#### **September 8, 2025 (Monday)**

9h30 – Maria Rosário Bronze - Opening Session (FFUL)  
10h00 – Noélia Duarte (FFUL): “Fundamentals on mass spectrometry and instrumentation”.  
11h30 – Discussion  
12h – Lunch Break  
14h – Andreia Bento da Silva (FFUL) – “The Structural Analysis Laboratory at FFUL - Views and Resources for Research”  
14h45 – Discussion  
15h – Antonio Castanera (INMLCF): “Mass spectrometry and workflow in forensic toxicology”  
15h45 – Discussion  
16h – Tutorial period

#### **September 9, 2025 (Tuesday)**

9h30 – José Paulo da Silva (UAlgarve): "LC-MS based analysis of marine biotoxins"  
10h45 – Discussion  
11h – Ana Guerreiro (UniMS – ITQB/IBET): “Tackling the complexity of metabolomics using MS platforms”  
11h45 – Discussion  
12h – Lunch Break  
14h – Silvia Rocha (UAveiro): Body fluids metabolomics as a powerful strategy for biomarkers discovery based on advanced GC-MS based methodologies  
14h45 – Discussion  
15h – Tânia Melo (UAveiro): “Lipidomics in health and disease”.  
15h45 – Discussion  
16h – Tutorial period

#### **September 10, 2025 (Wednesday)**

9h30 – Bruno Manadas (CNCB-UCoimbra): “A different vision of translational research in biomarker discovery: Case Study for Parkinson’s disease potential biomarkers”  
10h45 – Discussion  
11h00 – Ricardo Gomes (UniMS - ITQB/IBET): “The analytical power of the QTOF-LC-MS platform to assess biologics quality attributes”  
11h45 – Discussion  
12h00 – Lunch Break  
14h – Hugo Osório (IPATIMUP): “Mass spectrometry-based proteomics in cancer”

14h45 – Discussion

15h – Deborah Penque (INSA): “Disease biomarkers discovery by Proteomics-based approaches”

16h - Discussion

16h15 – Tutorial period

### September 11 , 2025 (Thursday)

9h30 – Gerardo Alvarez Rivera (CIAL-CSIC, Madrid) - "Phytochemical profiling based on high-resolution mass spectrometry to uncover the bioactive potential of food by-products".

10h45 – Discussion

11h – Ana Sanches Silva (UCoimbra) - LC-MS applied to the analysis of bioactives and contaminants in food: demystifying the complexity, challenges and trends

11h45 – Discussion

12h – Lunch Break

14h – Lúcia Montero (CSIC-UAM, Madrid) - How to improve the separation power in food complex matrices: Comprehensive two-dimensional liquid chromatography coupled to mass spectrometry (LC x LC-MS).

14h45 - Discussion

15h – Sofia Catarino (ISA-ULisboa): “ICP-MS applications for wine quality and authenticity assessment

16h - Discussion

16h15 – Tutorial period

### September 12, 2025 (Friday)

9h30 – Alexandra Antunes (IST-ULisboa): “Mass Spectrometry: A Tool for Chemical Toxicology”

10h45 – Discussion

11h – Pedro Domingues (UAveiro) - "Decoding Macrophage Responses: Multi-Omic Profiling with Mass Spectrometry".

11h45 – Discussion

12h00 - Lunch Break

14h – José Câmara (UMadeira) - The role of MS-based techniques in Foodomics

14h45 – Discussion

15h – Tutorial period

September 15 to September 19 – Preparation of individual work for assessment

September 22 - Evaluation