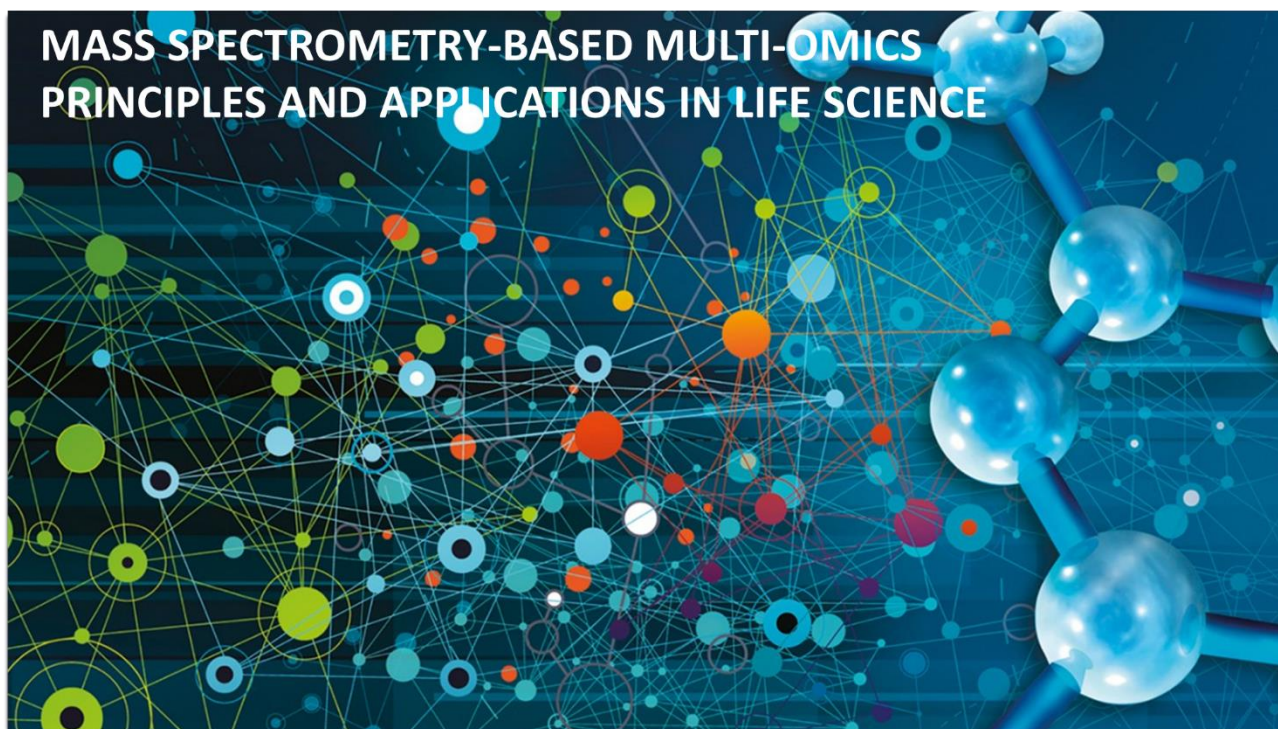


“Rafforzamento e creazione di Infrastrutture di Ricerca” finanziato nell’ambito del PNRR Missione 4, “Istruzione e Ricerca” - Componente 2, “Dalla ricerca all’impresa” - Linea di investimento 3.1, “Fondo per la realizzazione di un sistema integrato di infrastrutture di ricerca e innovazione”, finanziato dall’Unione Europea – NextGenerationEU

## PATHOGEN READINESS PLATFORM FOR CERIC-ERIC UPGRADE

(PRP@CERIC)



### Program

**Location:** Laboratory Bio Open Lab, first floor, Via Salvator Allende, Campus Baronissi, University of Salerno

#### November 19

9:30-13:00 Mass Spectrometry - General Introduction. Single session, Orbitrap Exploris 120. Single session Orbitrap Tribrid (Fusion Lumos). Single session

14:00-16:00. General considerations and introduction to main acquisition modes and instrumental methods for small molecules. Small molecules

14:00-16:00. Introduction to proteomics with Orbitrap-Tribrid. Proteomics

16:00-18:00. Standard runs / Sample preparation. Small molecules / Proteomics

## **November 20**

9:30-13:00. Hardware, preparation, and software insights (Compound Discoverer), Small molecules

9:30-13:00. Acquisition modes (DDA, DIA, TMT) and quantitative proteomics (Discovery). Proteomics

14:00-16:30. Practical tests with hardware and software. Quantitative pharma/metabolites and untargeted approach. Small molecules

14:00-16:00. Proteomics: Optimization of LFQ (DDA and DIA) and TMT methods (MS2/SPS-MS3)

16:00-18:00. Standard runs / Sample preparation. Small molecules / Proteomics

## **November 21**

9:30-11:30. LFQ-DDA and LFQ-DIA data analysis (Proteome Discoverer & DIA-NN) and DDA-TMT data (Proteome Discoverer).

11:30-13:00 In-depth software Q&A for data analysis (PD & DIA-NN)

14:00-15:30. Nano-flow LC considerations (Ultimate 3000 & Vanquish-Neo)

15:30-17:00. Practical tests and optimization of PRM methods.

17:00-18:00. Sample runs.

## **November 22**

9:00-10:30. PRM data analysis

10:30-13:00. Final considerations and assessments of various methods (DDA vs DIA vs TMT vs PRM)

14:00-15:00. Q&A

## December 2

9:30-13:00 Introduction, Fundamentals of qTOF & TIMS, Instrument Calibration, Cleaning Instrument & Preparation

14:00-16:00 Tandem Mass Spectrometry, Strategies and Acquisition Modes, PASEF (Identification), PRM-PASEF (Quantitation)

16:00-18:00 Q&A Session

## December 3

9:30-13:00 Liquid Chromatography, Separation Techniques, Introduction to the Elute and Hystar

Good Working Conditions

14:00-16:00 MetaboScape Data Analysis, Identification Workflows, Processing, Annotation

Statistics

16:00-18:00 Q&A Session

## December 4

9:30-13:00 MetaboScape Data Analysis – Part 2, Quantification Theory, Quantification of Lipids in Analyzed Samples

14:00-16:00 MALDI Imaging Theory, Sample Preparation, Matrix Deposition Methods, MALDI Ionization

Types of Instruments for MALDI Imaging

16:00-18:00 Q&A Session

## December 5

9:30-13:00 MALDI Imaging Practical, Sample Preparation for Lipid/Metabolite Imaging, Imaging Measurements on timsTOF FleX (TIMS On/Off)

14:00-16:00 MALDI Imaging Practical – Part 2, Sample Preparation for On-Tissue Protein Digestion

MALDI-2 Analysis, iprm-PASEF

16:00-18:00 Q&A Session

## December 6

9:30-13:00 MALDI Imaging Practical – Part 3, Imaging of Tryptic Peptides, Finalization of Measurements of HiPlex Sample

Data Analysis

14:00-16:00 MALDI Imaging Practical – Part 4, SCiLS & MetaboScape Analysis, Combining Multi-omics Datasets

16:00-18:00 Q&A Session

