MONDAY, DECEMBER 15TH, 2025

9:30 – 10:45   Registration
10:45 – 11:00   Welcome & Introduction (GIDRM, IMaSS, IMN)

SESSION 1 - Chair: P. Turano, A. Armirotti
11:00 – 11:40   <u>Plenary I</u>: **G. Theodoridis** "*LC-MS Metabolomics. Constraints, Perspectives and Potential for Biomarker Discovery and Clinical Application*"

11:40 – 12:00   **A. Noto** "*Metabolomic Signatures in Toddlers and Adolescents with Autism Spectrum Disorder: Insights from Ten Years of the UNICA Experience*"

12:00 – 12:20   **G. Solarino** "*Untargeted Fingerprinting in Bipolar Disorder: Chemometric Insights from the BORDER project*"

12:20 – 12:40   **G. Petrella** "*Urinary Metabolomics Reveals Inflamation, Immune Inhibition, and Gut Dysbiosis as Predictors of Bladder Cancer Recurrence*"

12:40 – 13:00   **A. Vignoli** "*Studying Alzheimer's Disease Through an Integrative Serum Metabolomic and Lipoproteomic NMR-Based Approach: the Medea Study*"

13:00 – 13:20   **A. Gallo** "*Exploring the Urinary Metabolomic Fingerprint of Human Cytomegalovirus: a ^{1}H-NMR Study on Congenitally Infected Newborns*"

13:20 – 14:20   **LUNCH AND NETWORKING**

SESSION 2 - Chair: P. Franceschi, D.O. Cicero
14:20 – 14:40   **E. Bossi** "*Mass Spectrometry-Based Workflow Optimization for Combined Metabolomics and Lipidomics Analysis from Blood Microsamples*"

14:40 – 15:00   **A. Ottas** "*Transferable Machine Learning Models for Cardiovascular Disease Prediction through NMR Metabolomics data and Optimal Transport*"

15:00 – 15:20   **L. Brunelli** "*Plasma gut-microbiota-derived metabolites trajectories to uncover the link between gut-microbiota dysbiosis and frailty in older adults*"

15:20 – 15:40   **N. Iaccarino** "*From Transcriptome to Metabolome: Uncovering the Cellular Impact of G-Quadruplex Ligands in Cancer Cells*"

15:40 – 16:00   **L. Tenori** "*Deriving Three One-Dimensional NMR Spectra from a Single Spectrum*"

16:00 – 17:00   **COFFEE BREAK AND POSTER SESSION (ALL POSTERS)**

SESSION 3 - Chair: A. Randazzo, G. Pieraccini
17:00 – 17:15   <u>Sponsorship lecture</u>: ***Bruker Mass Spec***
                      G. Calza, "*Beyond Isomer Separation | Trapped Ion Mobility Spectrometry (TIMS) Boosts Annotation Confidence in 4D-Metabolomics & 4D Lipidomics*"

17:15 – 17:35   **M. Spada** "*Metabolomics Reveals Metabolic Adaptations Following Glutamine Metabolism Impairment In Colorectal Cancer Cells*"

17:35 – 17:55   **S. Serrao** "*From Primary Tumor to Circulating Tumor Cells and Metastasis: Tracing Metabolic Reprogramming in Lung Cancer*"

17:55 – 18:15   **G. Picone** "*Influence of IMTA-RAS and Probiotics on the Molecular Profile of Solea Senegalensis: a ^{1}H-NMR Metabolomics Approach*"

18:15 – 18:35   **G. Meoni** "*Integrating NMR- and MS-Based approaches to characterize coffee micro-lots: elemental, polyphenolic, and metabolomic fingerprints*"

TUESDAY, DECEMBER 16TH, 2025

SESSION 4 - Chair: L. Atzori, V. Ghini

9:00 – 9:20   **S. Zampieri** "*Metabolomics Overcomes Age Bias in Non-Invasive Fibrosis Staging: the GP Index*"

9:20 – 9:40   **V. Balloni** "*Combined Tissue and Liquid Biopsies Reveal the Metabolic Interactions Among Blood, Liver, and Adipose Tissue in Bariatric Surgery of Morbid Obesity*"

9:40 – 10:00   **M. Nobile** "*Exercise-Induced Metabolic Adaptations During Cardiac Rehabilitation: a Longitudinal Metabolomic Investigation on DBS*"

10:00 – 10:20   **V. Righi** "*NMR Based Metabolomics to Investigate Molecular Mechanisms in ADLD Neurodegenerative Disorder*"

10:20 – 10:40   **M. Gallo** "*Saliva Metabolomics as an Emerging Tool for Advanced Diagnostics: the Leukoplakia Paradigm*"

10:40 – 10:55   Sponsorship lecture: ***Sciex***
                        M. Armelao "*Quantitative and Qualitative Analysis of Oxylipins Using Highresolution Mass Spectrometry*"

10:55 – 11:15   **COFFEE BREAK AND POSTER SESSION**

SESSION 5 - Chair: A. Passoni, M.R. Chierotti

11:15 – 11:35   G. Boschetti "*Metabolomics and Cystic Fibrosis Drugs: Exposure of Dams to Tezacaftor During Pregnancy and Breastfeeding Induces Molecular Alterations in Mice Brain*"

11:35 – 11:55   C. Marino "*The Metabolomic Dysfunctions of Spinal Muscular Atrophy: a Journey from Animal Models to Human CSF*"

11:55 – 12:15	C. Guerrini *"Unravelling Urinary Metabolic Alterations Induced by Thirdhand Smoke Exposure: from Untargeted Analysis in Animal Models to Targeted LC-MS Validation in Children"*
12:15 – 12:30	<u>Sponsorship lecture</u>: ***Bruker Biospin*** **M. Zani** *"Building the Ecosystem for Standardized and Automated NMR Metabolomics"*
12:30 – 13:10	<u>Plenary II</u>: **O. Millet** *"Integrative ^{1}H-NMR and Machine Learning Framework for Large-Scale Serum Metabolomics and Disease Classification"*
13:10 – 14:20	**LUNCH AND NETWORKING**
14:20 – 15:20	Meeting IMN