## MONDAY, DECEMBER 15$^{TH}$, 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 16$^{TH}$, 2025

*SESSION 4 - Chair: L. Atzori, F. Dal Bello*

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 High Resolution 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      Sponsorship lecture: ***Bruker Biospin***
**M. Zani "***Building the Ecosystem for Standardized and Automated NMR Metabolomics***"**

12:30 – 13:10      Plenary II: **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