

## **MONDAY, DECEMBER 15<sup>TH</sup>, 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 Plenary I: **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 Inflammation, 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 <sup>1</sup>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 Sponsorship lecture: **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 <sup>1</sup>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<sup>TH</sup>, 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 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”*

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