

**STANDARDISING ANALYTICAL METABOLOMICS. FOCUS IN FOOD ANALYSIS**

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Metabolomics represents an upcoming, interdisciplinary field in with applications spanning across biomedical, food and environmental sciences. In food sciences metabolomics can offer unique advantages by combing analyses, revealing trends in complex data, identifying new markers and creating new tools for quality control of foods.

As the field is still rather new, practically its sub-disciplines are still evolving: biochemical pathway annotation, chemical analysis, data interpretation are all in the development phase. The analytical part for metabolomics is highly demanding due to complexity of the composition of the samples, the high diversity of molecular structures and physico-chemical properties of the analysed molecules, the large differences in the concentration ranges between the different metabolites. These issues result to poor standardization of methods and reporting and thus hinder large scale application (epidemiology level), leading to fragmentation of research efforts. MS-based results obtained in different laboratories or instruments cannot be effectively compared or correlated. These issues call for large collaboration between metabolomics laboratories to set benchmarks, harmonise methods and standardize protocols and reports. Promotion of inter-laboratory tests is of utmost importance to compare findings. The presentation will highlight such needs, propose ideas and will call for common action which is necessary to overcome such issues, coordinate metabolomics experimentations, promote data sharing and comparison of analytical & sample preparation methods and metabolomics software, implement Quality Assurance/Quality Control/ (QA/QC) and the development and acceptance of common understanding/definitions.