

Experiences from observational and intervention studies

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During the last two decades, metabolomics has developed into a technically mature approach and a vital complement to other scientific tools in the life sciences. For these reasons, there are great expectations that, with the help of metabolomics, it might be possible to push dietary assessment to a higher level of reliability and quantitative precision. While this is justified in principle, it is crucial to know the technical and conceptual strengths, weaknesses, pitfalls, bottlenecks, challenges and potentialities of nutri-metabolomics in order to get a realistic picture of what nutritionists and epidemiologists can achieve with this approach.

Based on the experiences of the metabolomics workgroup at MRI obtained with the observational KarMeN study, the intervention studies performed within the scope of the JPI project FOOTBALL (Food Biomarkers Alliance) as well as diverse food metabolomics projects, the aim of this talk is to discuss, amongst others, the following practical aspects concerning nutri-metabolomics studies:

- What are the benefits of a multi-platform nutri-metabolomics approach?
- Why can it be complicated to validate intake markers identified in intervention studies using data of observational studies?
- Why it is important to gather comprehensive data about the composition of our foods?
- What are the major practical challenges and bottlenecks of nutri-metabolomics?