



From Samples to Insights into Metabolism for Precision Medicine

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Message from the Guest Editors

Large-scale metabolomics studies are gaining interest, as is the need to develop metabolome-wide association studies (MWAS). However, the path to achieving MWAS as a precision medicine tool for clinics needs to be paved, following the FAIR principles. Specifically:

- 1) Samples and Experimentally related issues: Biofluid collection and preservation; fast, robust, and reliable high throughput methods; strategies for removing multiple batch variations; raw spectra processing issues.
- 2) Meta-data collection: Informed consent and data protection compliances; public and digital health collaborations; anthropometrical, prescription and health status data.
- 3) Progression of Profiling to Identification: Metabolites identification to support iterative downstream investigations; appropriate levels of compound identification; software tools for processing and identification; report databases used.
- 4) Insights of the Metabolism: Statistic and normalization in MWAS; pathway analysis validity for biological fluids; data reporting for further re-analysis with meta-analysis; repositories of MWAS; reliability of MWAS results.



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Message from the Editor-in-Chief

The metabolome is the result of the combined effects of genetic and environmental influences on metabolic processes. Metabolomic studies can provide a global view of metabolism and thereby improve our understanding of the underlying biology. Advances in metabolomic technologies have shown utility for elucidating mechanisms which underlie fundamental biological processes including disease pathology. *Metabolites* is proud to be part of the development of metabolomics and we look forward to working with many of you to publish high quality metabolomic studies.

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