

**PL2**

**Metabolomics by numbers: lessons from large-scale phenotyping**

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Metabolomics is a growing discipline that allows the analysis of the thousands of structural different small molecules found within a biological system. These metabolites can be measured using a variety of different analytical approaches and we have developed gas chromatography mass spectrometry (GC-MS) and liquid chromatography mass spectrometry (LC-MS) for this purpose [1]. I shall provide an overview of metabolomics and lessons learnt from our large-scale human serum metabolome project where we profiled 1200 healthy individuals [2]. Using these protocols we then went on to profile another ~1200 ageing individuals and identified key metabolic dysregulation which were drivers behind human frailty, which were validated in a further ~760 ageing individuals [3].

**References**

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