

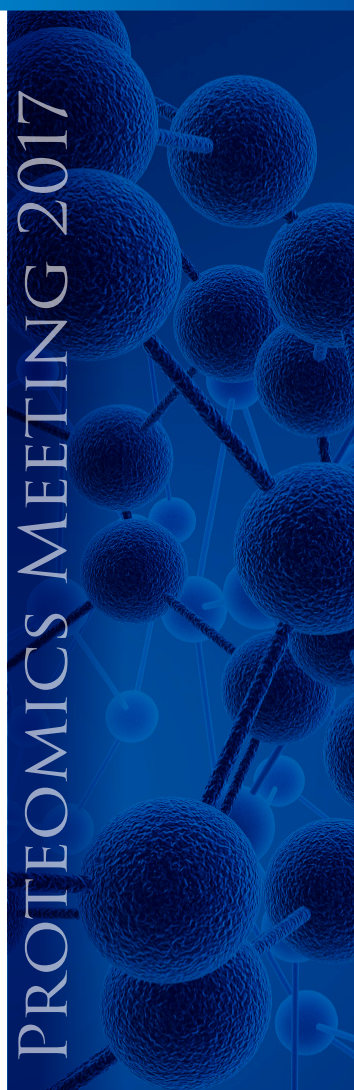
# GLOBAL PROTEOMICS CONFERENCE

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Metabolon Inc., USA



## Precision Metabolomics™ for precision medicine: From population health to scientific wellness

We have heard much about genomic medicine but genotype does not equate to phenotype. A potential future of effective precision medicine requires not only estimates of lifetime risk of disease but also accurate measurement of

phenotype: molecular phenotype. This will enable assessment of disease risk in the near term, disease progress, effect of intervention on disease progression and so on. Precision Metabolomics™ enables measurement of molecular phenotype in the form of the assessment of an individual's overall metabolism and changes to metabolism, not just specific, discrete metabolite measurements, in samples such as plasma, urine and tissue. When utilized in a 'systems medicine' approach metabolomics becomes a powerful indicator of health and disease. A pragmatic systems medicine approach would be to merge genomics data with large scale phenotypic measurements such as metabolomics, proteomics and imaging. The global metabolomics platform developed over the last 15 years by metabolon and its use in recent years in population health studies and applying knowledge of metabolism to precision medicine research will be discussed. These areas include diagnosis of inherited metabolic disease, undiagnosed illness, assessment of penetrance, drug toxicity and 'scientific wellness'.



**GENOMICS**  
Our genes suggest what diseases we might be predisposed to



**PHENOTYPE**  
A complete status of health assessed with metabolomics that can be used to prevent, diagnose & treat disease



**LIFESTYLE / ENVIRONMENT**  
External factors such as diet, exercise & other lifestyle choices, medications, microbiota, etc influence our health

### References

1. Long T, et al. (2017) Whole genome sequencing identifies common to rare variants associated with human blood metabolites. *Nat Genet.*; 49: 568-578.
2. Guo L, et al. (2015) Plasma metabolomics profiles enhance precision medicine for volunteers of normal health *Proc. Natl. Acad. Sci. USA*; 112: E4901-E4910.

### Biography

Martin P Hornshaw is the Director of Scientific Marketing at Metabolon Inc., USA. His goal is to educate the public in general as well as scientists specifically as to the power of mass spectrometry based metabolomics. He has many years of experience as a Scientist and of managing scientists working with the 'mass spec OMICS' of metabolomics, lipidomics and proteomics as well as clinical and diagnostic applications of mass spectrometry.

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