

## “Honorary Biomedical Sciences & Health Information Lecture Series”



### **DEVELOPMENT OF OMICS-BASED PROFILING TESTS FOR TOXICOLOGY AND CLINICAL TRIALS**

*A Distinguished Lecture*

By

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**Abstract:** Genomic, proteomic, metabolomic, epigenomic, and gene regulatory technology platforms and databases are making new kinds of studies feasible in environmental health and clinical research. Systems biology is generating new approaches to toxicological characterization of chemicals and new materials and fresh insights about pathways, networks, and therapeutic targets for a wide variety of diseases. Organ-specific signatures connect disease sites to protein and miRNA biomarker candidates that can be profiled in plasma. I will highlight selected examples. In addition, I will introduce the emerging Human Proteome Project, which holds potential to help fill the gap between genome and phenome.

**Key words:** Proteomics; genomics; epigenomics; databases; organ-specific signatures; Human Proteome Project.

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