

3rd International Conference and Exhibition on **Metabolomics & Systems Biology**

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Frontiers of metabolomics in biomedical research

Metabolomics-2014 is dedicated to bringing together experts in Metabolomics to discuss achievements in Analytical Techniques, Metabolomics Data Analysis, Bioinformatics, Biomarkers, Systems Biology, Metabolomics Applications in Drug Developments and Disease study, and others. Recent advances in Mass Spectrometry, NMR, and other analytical techniques allow gaining large volume of valuable information which can be applied to numerous fields of bio-medical research. Visible progress was achieved in Cancer Metabolism, Endocrine, Cardiovascular and Neurochemical Disorders, Metabolic Syndrome, and others. Systems Biology approach is gaining confidence in understanding the role of the complex networks of biological entities in regulation of biochemical processes. Starting from routine phenotyping Metabolomics evolved as a tool for interrogation of biological systems either on the cellular level or at the level of the whole organism; starting from exploratory laboratory level study and expanding into intercontinental levels of longitudinal studies. Well known Metabolomics applications are progressing benefiting from new analytical technique and advanced computing. New applications are emerging, for instance: chemoprevention research, identifying bioactive phytochemicals in plant extracts, monitoring phytochemical exposure in humans, elucidating biotransformation pathways of phytochemicals, and characterizing the effects of phytochemicals on endogenous metabolism. Toxicometabolomics is currently focusing on new assays which identify signatures of toxicity. These fields of study mentioned above and other new developments and initiatives become available due to reliable advanced analytical technique and methodologies providing strong basis for metabolomics bioinformatics, pathway identification and quality assurance.

Biography

Vladimir Tolstikov, Ph.D., is Scientist at Eli Lilly and Company. He received B.S. and M.S in Organic Chemistry in 1977 from M.V. Lomonosov Institute of Fine Chemical Technology, in Moscow, Russia. He received Ph.D. in Organic Chemistry in 1983 from the Institute of Chemical Means for Plant Protection, Moscow, Russia. He is a pioneer in HILIC separations development applied to Metabolomics. During his career he was working in leading research institutions in USA, Germany, Hungary and Russian Federation. He has joined Eli Lilly and Company in 2012. He is author, contributor and participant of 45 conferences, 5 book chapters, and 54 articles.

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