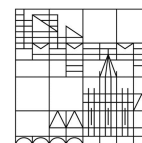


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## **Symposium Metabolomics in Toxicology and Preclinical Research: State-of-the art and potential applications**

**13<sup>th</sup> of February, 2012**

Novotel-Berlin-Mitte, Germany

The Chemical Company BASF SE and the Centre of Alternatives to Animal Testing – Europe (CAAT-Europe) would like to invite you to the Symposium on 'Metabolomics in Toxicology and preclinical research', held on Monday February 13<sup>th</sup> 2012 in Berlin, Germany. The Symposium will focus on the state-of-the-art und potential applications of metabolomics in toxicology and preclinical research.



## Outline:

In order to meet the challenges of the toxicology of the 21<sup>st</sup> century, it is essential to understand the molecular pathways underlying the toxic effects of chemical, agrochemical or pharmaceutical compounds. To address this challenge, it is crucial to use innovative methodologies that enable scientists to obtain the highest-possible information from a biological system. Metabolomics, as compared to other -omics approaches, can be considered as being the closest of the '-omics sciences' to classical toxicology, while providing information on a high level of integration enabling us to

- 1) Improve our understanding about the toxicological profile of a given compound; i.e. identifying its toxicological mode of action(s);
- 2) Identifying biomarkers that can potentially be used to identify pathophysiological conditions or in cases of drugs used for treatment monitor efficacy of treatment and
- 3) Identify biochemical pathway changes following exposure.

The metabolomics technology is particularly suitable to be applied using body fluid matrices, such as urine and blood, enabling comprehensive insights into metabolic responses to e.g. chemical exposure without analyzing individual organs. In toxicology the first applications have been for mechanistic research and early identification of toxicological effects. Recognition and understanding the cause of (patho)toxicological effects based on identification of mode of action(s) will greatly enhance the quality of toxicological studies and aid the risk assessment process. Moreover, overall comparisons of metabolome profiles of chemicals should provide comprehensive biological information which will enable us to build better chemical categories for safety assessment. Finally, based on the successful application of metabolomics in chemically induced toxicity, it should be feasible to use this technology for the identification of diseases.

This Symposium brings together scientists from academia, industry and regulatory bodies to present the current status of this technology and its applicability in toxicology, particularly for safety assessment of compounds.