

2014 Workshop on Mitochondrial Toxicity and Pathway-Based Chemical Safety Assessment, Beijing, China, 13-14 October 2014

Title:

Using metabolically-modified liver models to examine the role of mitochondrial dysfunction in adverse drug reactions- **Dr Amy Mercer**

Abstract:

The talk will discuss recent work to evaluate the use of metabolic modulation to generate improved pre-clinical models for the mechanistic investigation of mitochondrial-induced toxicity using a panel of hepatotoxins. In most standard preclinical models the tumour-derived cells have undergone a change in energy production in order to provide sufficient ATP for continued growth; by switching energy metabolism to glycolysis alongside oxidative phosphorylation thus reducing their sensitivity to mitotoxicants. In addition these models have been used to uncover novel mechanisms of mitochondrial dysfunction. The importance of this data, specifically the role played by mitochondrial dysfunction in the initiation and progression of adverse-drug reactions and its translation to man will be discussed.