

## The School of Pharmacy and Pharmaceutical Sciences

Seminar Series 2009/10

---

**'Understanding drug-metabolism interactions: from networks to kinetic models'**

Thursday 11 March 2010

Dr Jean-Marc Schwartz, Faculty of Life Sciences, The University of Manchester

Abstract

Although investments by pharmaceutical companies have been growing continuously in the last decades, the number of newly approved drugs has remained almost constant. The traditional approach of drug development generally targets a single gene or gene product. However, many diseases are multifactorial and systemic effects of drug action need to be taken into account.

The new field of Systems Biology seeks to develop quantitative models of cellular processes embedding our knowledge of their mechanisms and dynamics. These developments provide new opportunities to understand and quantitatively predict the effects of drugs on cellular systems.

In this talk, we will present recent works aiming to characterise and model interactions between drugs and metabolism, ranging from global network-based analyses to the construction of quantitative kinetic models of drug action.