

Project proposal template – Faculty studentships Summer 2014

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<i>Project title</i>	<input style="width: 100%;" type="text" value="Holistic and mechanistic evaluation of the cellular interaction between pharmaceutical"/>	<i>Director of Study</i>	<input style="width: 100%;" type="text" value="Raid Alany"/>
<i>Second Supervisor</i>	<input style="width: 100%;" type="text" value="Amr ElShaer"/>	<i>School</i>	<input style="width: 100%;" type="text" value="Pharmacy and Chem"/>
<i>Other members of supervisory team</i>	<input style="width: 100%;" type="text" value="Jean-Christophe Nebel"/>	<i>Any requirements from applicant (eg degree in specific subject area)</i>	<input style="width: 100%;" type="text" value="Bsc or Msc Pharmaceutical sciences, Biomedical"/>
Project summary (max 1,000 characters)			
<p>Pharmaceutical excipients have been found to have partial or full enhancements on drug's pharmacokinetics (Buggins et al., 2007). Recent studies have revealed that non-active pharmaceutical excipients can produce subtle modifications on drug pharmacokinetics PK, which could change the overall ADME (Absorption, Diffusion, Metabolism and Elimination) proprieties of administered drugs. Nevertheless, the impact of most known excipients on drug metabolism has not yet been explored (Ren et al, 2008). The aim of the proposed research is to holistically screen the effects of pharmaceutical excipient on the pharmacokinetics of three model drugs (erythromycin, phenytoin and vinblastine) at cellular level using genechips and <i>in vitro</i> metabolic assays. The data generated will enable better understanding of excipient interactions with cells and could be used as a platform to manufacture smart delivery systems that can optimise drug bioavailability.</p> <p>Keywords: Pharmacokinetics, absorption, metabolism, microsomes studies, microarrays.</p>			