



School of Pharmacy PhD Projects 2013

Project Title Solid Dispersion Orally Administered Drug Delivery Platforms with Improved Bioavailability

Supervisors Dr. Gavin Andrews & Prof. David Jones

Description Orally administered drugs represent the most patient acceptable drug delivery platforms on the market offering high levels of patient acceptability and compliance. Whilst most marketed formulations utilize the crystalline form of a drug compound, an increasing number of newly discovered drugs are falling into BCS class II/IV categories. This means that the bioavailability and hence therapeutic efficacy is limited by dissolution within the gastrointestinal fluids. Over the last decade there has been a renewed interest in solid dispersion technologies that utilize the amorphous form of a drug as a means of improving solubility within gastrointestinal fluids. The amorphous form is a highly disordered, thermodynamically unstable state that offers improved dissolution but limited stability within pharmaceutically relevant timescales. The lack of stability greatly limits the use of these systems and thus requires urgent attention if new drug compounds are to reach the clinic and achieve commercial success. This project will provide extensive training in pharmaceuticals relating to oral dosage form design. In addition to working at QUB, the student will have an opportunity to work closely with a large multinational pharmaceutical company to understand the complexities of drug product development and gain invaluable industrial experience.

This studentship is funded by DEL. Applicants should have a 1st or 2.1 honours degree (or equivalent) in a relevant subject. Students who have a 2.2 honours degree and a Master's degree will also be considered. Candidates must also fulfil the eligibility criteria set by DEL which can be found at this link:

<http://www.qub.ac.uk/home/Research/PostgraduateCentre/PostgraduateAwards/ProspectiveStudents/LocalUKApplicants/ResearchFundingAvailableforUKandEUApplicants/DepartmentforEmploymentLearningDELResearch/>

Start Date October - December 2013

Keywords Oral Drug Delivery, Bioavailability, Melt Extrusion, Spray Drying
Amorphous Drug Forms

Contact Details

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How to Apply

Postgraduate applications should be made using Queen's Online:

<http://go.qub.ac.uk/pgapply>

Please note that there are two application processes: one for admission to the university and another for postgraduate awards.

Further Information

Additional information for prospective postgraduate students can be found on the School of Pharmacy website:

<http://www.qub.ac.uk/pha>

and the Queen's Postgraduate website:

<http://www.qub.ac.uk/home/ProspectiveStudents/PostgraduateStudents/>