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| **\*Title of studentship** | Continuous Manufacturing of Amorphous Solid Dispersions using Hot Melt Extrusion based upon Quality by Design Principles: Understanding Critical Process Paramenters, Formulation Variables and Process Scale-up. |
| **Value / what is covered?** |  |
| **Awarding body** |  |
| **Number of studentships** | 1 |
| **\*Summary descriptive text / Example of research project** | 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 utilise 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 utilise the amorphous form of a drug as a means of improving solubility within gastrointestinal fluids. In this time, the pharmaceutical industry has also moved towards continuous processing as a means of driving process efficiencies to produce high volume solid oral dosage forms in a highly controlled cost-efficient way. In this project, the PhD candidate will investigate the use of HME for the production of amorphous solid dispersions. The project will include the use statistical methods coupled with in-lab experiments to develop a deep understanding of solid dispersions and HME processing and apply quality risk management tools in a bid to enhance process capability/efficiency and to reduce product variability.  This project will provide extensive training in pharmaceutics 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 |
| **\*Supervisor(s)** | Prof Gavin Andrews |
| **\*Eligibility / residence Status** |  |
| **Country** | Northern Ireland |
| **\*Start date and duration** | Sept 2022 |
| **\*Faculty** | MHLS |
| **\*Research centre / School** | Pharmacy |
| **Subject area** |  |
| **Candidate requirements / Key skills required for the post** | Applicants should have a 1st or 2.1 honours degree (or equivalent) in a relevant subject. Relevant subjects include Pharmacy, Pharmaceutical Sciences, Biochemistry, Biological/Biomedical Sciences, Chemistry, Engineering, or a closely related discipline. Students who have a 2.2 honours degree and a Master’s degree may also be considered, but the School reserves the right to shortlist for interview only those applicants who have demonstrated high academic attainment to date. |
| **\*Deadline for applications** |  |
| **\*How to apply / contacts** | Postgraduate Research applicants must have applied to Queen’s, via the Direct Applications Portal.  <https://dap.qub.ac.uk/portal/user/u_login.php> |
| **Relevant links / more information** | <http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/PostgraduatePositions/>  <http://www.qub.ac.uk/schools/SchoolofPharmacy/Research/> |
| **Keywords for search filters** |  |
| **Training provided through the research project** |  |
| **Expected impact activities** |  |