# EPSRC Supported EngD Project. Development and modelling of process control for scale up and optimisation of pharmaceutical high shear wet granulation

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**Tax free bursary of £25,000 p.a. and fees paid**

Tablet manufacture is a fundamental process essential for delivering most existing and new drugs to the patient. High shear wet granulation can be a key component of tabletting lines, performing the twin functions of mixing and size enlargement. Mixing ensures uniformity of drug distribution while size enlargement improves powder flowability; both help maintain uniformity of tablet drug loading. Granule properties (size, hardness, porosity etc) further influence the operation of the tablet press (compaction speed and pressure) to deliver the desired tablet properties (strength and dissolution, for example).

The translation of input material properties into tablet properties via granulation, granule properties and tablet compaction, lacks fundamental understanding. Prior knowledge developed on current products through empirical work underpins the process design of most commercial batch granulation processes. This consumes many batch runs, plant time and input materials for new drugs and new process lines but also for existing drugs on existing lines with the need for lifecycle changes. The consequence is wasted time and wasted material with significant cost and environmental implications.

To be eligible for EPSRC funding candidates must have at least a 2(1) in an Engineering or Scientific discipline or a 2(2) plus MSc. To apply please email your cv to cdt-formulation@contacts.bham.ac.uk. Currently we are only able to accept UK nationals. For details on the Engineering Doctorate scheme visit the [homepage](http://www.birmingham.ac.uk/schools/chemical-engineering/postgraduate/eng-d/index.aspx).

**Deadline: 31 May 2024**