

Vacancy: PhD position Laboratory of Pharmaceutical Technology Ghent University (Belgium) in collaboration with Johnson & Johnson Belgium

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<p>Towards <i>in-silico</i> approaches for enabling development and control enhancement of drug product continuous manufacturing</p>

The pharmaceutical industry is switching from batch-wise to continuous manufacturing of tablets. The aim of current project is to address crucial gaps of knowledge for industrial implementation of continuous tablet manufacturing via direct compression.

During drug product development limited amounts of new chemical entities are available to investigate the effect of formulation and process variables on the final drug product. The first aim is therefore to develop a strategy for identification of a surrogate component, i.e. a component with similar characteristics as the new chemical entity, to use during early process and formulation development trials. Furthermore, continuous feeding of very cohesive raw materials is often challenging and affects further downstream processing. Therefore, various formulation strategies to overcome feeding issues of very cohesive raw materials in function of process parameters will be developed. Finally, a control strategy based on residence time distributions is of utmost importance to ensure the final product quality and traceability along the manufacturing line. Therefore, the critical formulation and process parameters affecting residence time distributions on a continuous direct compression line will be investigated and predictive models will be built for each unit operation and for the integrated line.