# EPSRC supported EngD. Developing novel sustainable dried capsules for consumer goods applications

**Prof Z. Zhang ( Chem Eng, University of Birmingham )**

**P&G ( Brussels )**

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

For consumer goods industries to achieve their sustainability goals, one potential approach is transitioning from liquid products to dried products. This shift offers several advantages that contribute to sustainability objectives. Firstly, dried products require less water content, reducing the strain on water resources during manufacturing processes. Secondly, dried products have a longer shelf life. Additionally, dried products are typically lighter and more compact, resulting in reduced transportation emissions and costs. The primary focus of this project is the encapsulation of key actives for the consumer goods industry using sustainable shell materials in dried form. Encapsulation involves enclosing active ingredients within a protective shell, enhancing their stability and facilitating controlled release. By employing sustainable shell materials, we aim to minimize environmental impact and meet evolving non-microplastic regulations.

The student will study various drying processes to optimize the effectiveness, stability, and eco-friendliness of dried capsules. This includes investigating innovative methods to produce prototypes, evaluating the performance in different consumer goods, and assessing the overall environmental footprint of the process. The outcomes of this project will contribute to the advancement of sustainable practices in the consumer goods industry, by enabling the transition from liquid to dried products and emphasizing the use of sustainable shell materials, to meet our sustainability goals while reducing their environmental impact. It is a multidisciplinary project in which the candidate will develop knowledge on materials, test methods and encapsulation processing skills

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. This project is open to UK and international students. For details on the Engineering Doctorate scheme visit the [homepage](http://www.birmingham.ac.uk/schools/chemical-engineering/postgraduate/eng-d/index.aspx).

**Deadline: 26 th April 2024**