# EPSRC supported EngD:

# Enhancing the penetration of cosmetic actives into the skin

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The No7 Beauty Company

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

No7 Beauty Company have a need to develop lab suitable methods and techniques that allow the assessment of the performance of skin care formulations without needing to test on human volunteers.

To develop more efficacious skincare products there is a need to deliver active ingredients more effectively into the skin. The skin penetration process is highly complicated and consists of several consecutive steps, each of which can be rate limiting. Cosmetic active ingredients have become more popular and there is a need to ensure that different types are being delivered effectively to their target areas. This ensures the actives are given the best opportunity to work and prevents the over engineering of formulations by using higher levels than are required which increases cost and reduces skin tolerance.

We have a need to be able to predict how actives penetrate the skin and improve the delivery to the desired skin depth. This could involve modelling how active penetration can be improved by delivery systems, formulation types or penetration enhancers as well as understanding how we can achieve controlled released or the effect of mechanical devices on the skin. To validate the predictions, we aim to correlate the actual skin delivery by using representative analytical techniques to measure what is delivered and where it is delivered to using mechanically relevant, 3D printed skin models or skin sections.

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](mailto:cdt-formulation@contacts.bham.ac.uk). Open to UK nationals only due to funding restrictions.

For details on the Engineering Doctorate scheme visit the [homepage](http://www.birmingham.ac.uk/schools/chemical-engineering/postgraduate/eng-d/index.aspx).

**Deadline: 31st July 2024**