Three fully funded PhD studentship at University of Surrey, UK in 'computational modelling of skin penetration'

Project description

We have three PhD openings in the area of computational modelling of chemicals penetrating into human skin. This research area underpins the design, efficacy and risk assessment of many high-value products including functional personal care products and cosmetics, topical and transdermal drugs, amongst others; it is also relevant to occupational and environmental health due to unexpected exposure to contaminants.

The three projects will have different focuses but together contribute to enhanced understanding of this fascinating process. Projects 1 and 2 are mainly computational, while Project 3 involves experimental and computational studies.

Project 1, funded by a UK Research Council and Unilever R&D, will be modelling the microscopic disposition of chemicals in local skin tissues, as well as how computer models can help extrapolate the lab experimental results to real exposure scenarios experienced by human.

Project 2, funded by the US Food & Drug Administration, will be looking at the effect of product formulations on skin penetration, e.g. by integrating thermodynamics with our existing mass transfer model. This project will collaborate closely with the experimental groups in Australia.

Project 3, funded by a UK Research Council in collaboration with the National Physical Laboratory, will involve developing new spectroscopic imaging methods for studying skin penetration (experimental), and using the new imaging information to improve our current computer model.

Funding details

Due to funding constraints, Project 1 is only open to UK nationals (or EU national who have been residing in the UK in the past 3 years). Project 2 and 3 do not have any residence constraints.

The studentships will cover the tuition fee and provide a PhD stipend at the standard UK Research Council rate (currently at about £15,000 per annum), for 3~4 years, as well as generous budget for training activities (workshops, conferences, etc.).

Academic requirement

- A relevant university degree (first or upper second) in engineering, mathematics, physics or chemistry.
- Good mathematical skills, and experience in computer programming and/or mathematical modelling.
- A Master's degree is not a pre-requisite but desired.
- Non-native speakers of English who did not study in an English speaking country will be required to have IELTS 6.5 or above (or equivalent TOEFL score).

Application process

Please email the following to Dr Tao Chen (t.chen@surrey.ac.uk), Department of Chemical and Process Engineering, University of Surrey:

1) Cover letter (max 1 page) explaining your interest and suitability for one of the chosen project; 2) CV (max 2 pages); 3) Published work (if any) such as journals and conference articles; 4) Copy of your academic transcripts; 5) Copy of your MSc dissertation (if applicable); and 6) If applicable, a copy of a valid IELTS certificate (or TOEFL) from the past two years.

Applications will be reviewed when received, and shortlisted candidates will be interviewed. The position will remain open until a suitable candidate is found. The start date is flexible, ideally in January or April 2020, but could also be July or October 2020.