Bridging regulatory science and innovation for dermal generics and advanced skin therapies

DC03: Development of a framework for rheological assessment of semisolids that is predictive of its performance

Host institution: Eberhard Karls University of Tübingen (EKUT), Pharmaceutical Technology and Biopharmacy, Germany

Supervisor: Prof. Dominique Lunter

Co-supervisors: Prof. Snežana Savić, University of Belgrade (Academic); Dr. Michael Herbig, RaDes GmbH (Industrial)

Project description: Rheological properties are key determinants of semi-solid formulation performance, influencing drug release, spreadability and skin interaction. However, their role in regulatory equivalence assessment is not yet clearly defined.

This PhD project focuses on establishing a predictive framework linking rheological behaviour to IVRT and IVPT outcomes. The work will involve the design of formulations with controlled microstructure and viscoelastic properties, followed by detailed rheological characterisation (including flow, oscillatory and structural recovery measurements).

The resulting data will be correlated with drug release and permeation profiles to identify rheological descriptors that are predictive of performance. The project will define standardised testing protocols and acceptance ranges for relevant rheological parameters, contributing to Q3 equivalence assessment in a regulatory context.

Host laboratory: The doctoral candidate will be hosted at the Institute of Pharmaceutical Sciences, Eberhard Karls University of Tübingen (EKUT), Germany. The laboratory provides advanced infrastructure for rheological characterisation and dermal formulation testing, with strong expertise in linking physicochemical properties to drug delivery performance. The group operates within an interdisciplinary academic-industrial network.

The University of Tübingen is committed to equity and diversity and actively promotes equal opportunities. The University seeks to raise the number of women in research and therefore encourages qualified female academics to apply for the position. Disabled candidates will be given preference over other equally qualified applicants.

The employment will be handled by the central administration of the University of Tübingen.

Secondments: This project is carried out in collaboration with the following company partners, and extended mobility to their laboratories is expected during the project:

- 12 months at RaDes GmbH, Germany (supervisor: Dr. Michael Herbig)
- 6 months at Tiofarma BV, Netherlands (supervisor: Dr. Thijs Rooimans)

A willingness to travel and spend time abroad is therefore essential.

Tentative starting date: 1st Nov 2026

Eligibility conditions:

- Master's degree in pharmaceutics, pharmaceutical technology or related fields.
- Applicants must be doctoral candidates, i.e not already in possession of a doctoral degree.
- Mobility rule: researchers must not have resided or carried out their main activity in the country of the recruiting beneficiary for more than 12 months in the 36 months immediately before their recruitment date.

Required skills:

- Profound knowledge on pharmaceutical technology, ideally with prior knowledge on the design and physico-chemical and/or biopharmaceutical characterization of semi-solid formulations for cutaneous use, particularly on rheological characterisation.
- Affinity with mathematics, data evaluation and statistics.
- Proficiency in the English language is required (minimum C1 level), as well as good communication skills, both oral and written. Successful candidates will need to provide an English test (e.g. IELTS, TOEFL, Cambridge English). You may be exempt if you are a national of a majority native-English speaking country, or have qualifications / degree that has been taught and assessed in English. The supervisor may also confirm that a candidate has the required level of English.

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Remuneration:

The Doctoral Candidate will receive a gross yearly salary of ~48000 EUR in accordance with the MSCA Doctoral Networks programme, including a living allowance and a mobility allowance. This amount corresponds to the contractual gross salary and is indicated before deduction of employer costs, employee taxes and social security contributions. An additional family allowance (if applicable) is foreseen. The net salary will depend on local taxation, social security and employment regulations.

Enquiries:

For general information about the guideSkin Industrial Doctorate visit the project website (https://guideskin.eu/). Recruitment will be managed by the respective host or recruiting organisation. For additional information on this project, please contact Prof. Dr. Dominique Lunter (dominique.lunter@uni-tuebingen.de).

How to apply

Please send all the documents detailed below as one pdf file to dominique.lunter@uni-tuebingen.de.

Required documents:

- Statement of interest (limit of 2,500 characters) explaining why you wish to be considered for the fellowship and which qualities and experience you will bring to the role.
- Curriculum vitae et studiorum.
- A certificate of University examinations taken (with marks).
- A final degree certificate translated in English. If, at the time of application, candidates should not be yet in possession of a degree certificate, they can submit it at the time of the examination. However, if successful, the candidate will be required to provide a translated and legalised certificate as proof of eligibility for doctoral admission.

A limited number of applicants will be invited for an interview and will be required to provide contact information of up to two contact person for reference letters.

Application deadline: The closing date for applications is **31st July 2026.**