

Horizon Europe MSCA Doctoral Network

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

guideSkin is an EU-funded MSCA Industrial Doctoral offering 15 fully funded PhD positions at the cutting edge of cutaneous drug development. Brining together six European universities with leading pharma manufacturers and technology-driven SMEs, the research and training programme will transform how dermal medicines and generics are developed, evaluated and approved in line with the new EMA Guidelien on Quality and Equivalence of Cutaneous Products. The guideSkin Doctoral Candidates will benefit from extended industrial secondments, hands-on work in advanced research facilities, interdisciplinary coursework and dedicated transferable-skills training.

What guideSkin will offer

- A thorough scientific education in the frame of a doctoral training program.
- The possibility to participate in specific international courses, workshops and conferences.
- A strong involvement in a European research project with high international visibility.
- A prestigious three-year MSCA Fellowship.
- A competitive salary including mobility and family allowances.

DC04: Development of a framework for characterisation of the physical state of drugs in semisolids and patches that is predictive of its performance

Host institution: [University College Cork](#) (UCC), [School of Pharmacy](#), Ireland

Supervisor: [Dr. Sonja Vucen](#)

Co-supervisors: Prof. Abina Crean, University College Cork (Academic); Dr. Michael Herbig, RaDes GmbH (Industrial)

Project description: The physical state of the active pharmaceutical ingredient, including particle size, polymorphic form, crystallinity and thermodynamic activity, critically determines drug release and skin penetration. The EMA guideline requires detailed characterisation of these attributes, yet robust methodologies for their assessment within complex formulations remain limited.

This project aims to develop analytical frameworks for in situ characterisation of API physical state in semi-solid and patch formulations and to link these properties to IVRT and IVPT performance. The work will employ thermal analysis and X-ray diffraction for crystallinity and polymorphism, as well as spectroscopic and microscopic techniques such as confocal Raman spectroscopy and atomic force microscopy for spatial distribution analysis. Non-destructive methods will be developed to monitor changes during storage and after application.

A key objective is to quantify how transformations such as crystallisation or phase transitions affect thermodynamic activity and drug delivery. The project will establish predictive relationships between API state and performance and define methods for monitoring API stability under use conditions, supporting regulatory identification of API-related critical quality attributes

Host laboratory: The doctoral candidate will be hosted at the School of Pharmacy, University College Cork (UCC), Ireland. The school provides a leading research environment in pharmaceutical formulation and drug delivery, with strong expertise in dermal and transdermal systems. The laboratory is equipped with advanced analytical platforms including spectroscopy, microscopy, thermal analysis and IVRT/IVPT systems, enabling comprehensive characterisation of formulation performance.

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 [LTS Lohmann Therapie-Systeme AG](#), Germany (supervisor: Dr. Patrick Mohr)

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

Tentative starting date: 1st January 2027

Eligibility conditions:

- To have less than four years' research experience (full-time equivalent) after obtaining their Bachelor's or Master's degree.
- Must not hold a PhD degree at the time of recruitment.
- Comply with the mobility rule: Applicants must not have resided or carried out their main activity (work, studies, etc.) in Republic of Ireland for more than 12 months in the 36 months immediately before their recruitment date.
- Must meet the requirement for registering PhD programme at University College Cork, including:
 - Hold at least a 2:1 equivalent Bachelor's or Master's degree in Pharmacy, Pharmaceutical Technology, Industrial Pharmacy or related fields.
 - Demonstrate proficiency in the English language. For IELTS Academic, a minimum overall score of 6.5 is required, with no individual component below 6.0 (or equivalent scores in other recognised English language tests). The test must have been completed within the previous two years. Further details are available at <https://www.ucc.ie/en/study/comparison/english/postgraduate/>

Required skills:

- Profound knowledge on pharmaceutical technology, ideally with prior knowledge on the design and physico-chemical and/or biopharmaceutical evaluation of semi-solid formulations for cutaneous use.

Remuneration:

The Doctoral Candidate will receive a gross yearly salary of ~74,000 EUR in accordance with the MSCA Doctoral Networks programme, including a living and 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 at <https://guideskin.eu/>. Recruitment will be managed by the respective host or recruiting organisation. For additional information on this project, please contact Dr Sonja Vucen at svucen@ucc.ie.

How to apply

Please send all the documents detailed below as **one pdf file** to Dr Sonja Vucen at svucen@ucc.ie.

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.
- Proof of English Language tests (IELTS or equivalent)
- Two letters of recommendation

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