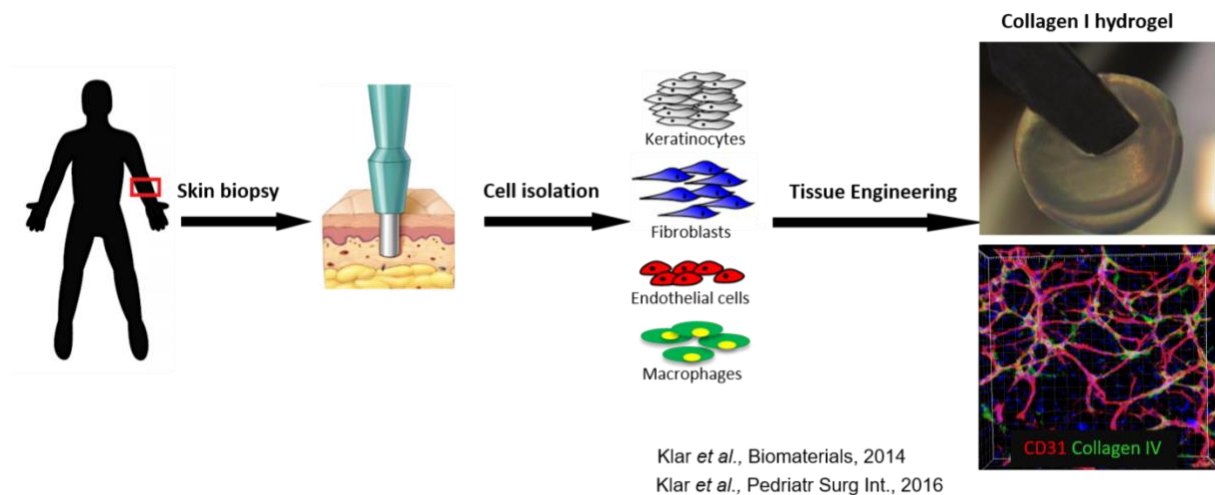


SkinTERM ESR10: PhD position ‘Role of macrophages on vascularisation and regeneration of human skin’

Open PhD position at the [Tissue Biology Research Unit of the University of Zurich](http://www.SkinTERM.eu) on the role of macrophages on vascularization and regeneration of human skin. The position is part of the Innovative Training Network “SkinTERM”, Skin Tissue Engineering and Regenerative Medicine, an EU Horizon 2020 Marie Skłodowska-Curie Actions funded project (www.SkinTERM.eu). This network will train a new generation of entrepreneurial, multidisciplinary and intersectorially scientists able to drive this research area further towards clinical translation in Europe. The ESR10 project will be executed in collaboration with the University of Algarve (UALG, Portugal), Helmholtz Zentrum München (HMGU, Germany), and the company MedSkin Solutions Dr. Suwelack AG (MDS, Germany).



Project description:

Macrophages play key roles in all phases of wound healing. Therefore, in this project, we want to investigate the role of distinct types of macrophages on the vascularisation and the healing response of bio-engineered human skin, in order to propagate a pro-healing macrophage response and scar-free skin tissue regeneration. Three main objectives for this project are:

1. **Preparation of skin grafts and polarisation of macrophages.** The ESR will generate human dermo-epidermal skin grafts. Human classically activated, inflammatory macrophages (M1) and alternatively activated, tissue repair macrophages (M2), where two types of M2 macrophages will be investigated.
2. **Investigation of the influence of skin grafts with macrophages on their *in vitro* and *in vivo* behaviour.** Keratinocytes, fibroblasts, endothelial cells and macrophages will be included in the dermal compartment of the human skin graft. Analyses will be undertaken on pre-vascularised grafts, both *in vitro* and *in vivo* after transplantation on immuno-deficient rats. For the *in vitro* analysis, focus will lie on the impact of differently polarised macrophage subsets on dermal capillary formation.
3. ***In vitro* screening for novel skin pro- and anti-fibrotic factors secreted by different macrophage subsets.** From Objective 2, we will learn which macrophage subsets lead to an anti-fibrotic, non-scarring response. In this objective, we will identify anti-fibrotic factors secreted by those macrophages *in vitro*.

Eligibility criteria for ESR positions in H2020 MSCA-ITNs:

- The candidate must not have resided or carried out his/her main activity (e.g. work, studies, etc.) in Switzerland for more than 12 months in the 3 years immediately before the recruitment date.
- The candidate must hold a Master's degree, be in the first four years of his/her research career and not have a doctoral degree

Project specific requirements:

- MSc in Life Science/Biomedical sciences/Biology or similar
- Expertise in the following areas is highly recommendable: immunofluorescence assays, (immune)histology, (confocal) microscopy, FACS, cell culture
- Previous work with macrophages is an advantage
- Previous experience with skin models is an advantage
- Permission to work with animals is a benefit
- Passion for science, innovation and creative and independent work
- Proficient in written and spoken English
- Team player
- Willing to move to Switzerland and work for a prolonged period abroad as part of the planned secondments (Portugal, Germany)
- **Note that this ESR position requires additional application for the BioMed PhD program at the Life Science Zurich Graduate School of UZH.**

Our offer:

- Working in an innovative, well-equipped and scientifically stimulating environment
- Unique training opportunities -the student will be embedded in BioMed PhD program at UZH as well as the ITN network 'SkinTERM'
- Training and supervision in cutting edge technologies (tissue engineering, multi-colour FACS, proteomics)
- Initial employment contract for 3 years with a standard public service salary (SNSF Switzerland). Attractive salary encompassing a living allowance, a mobility allowance and, if applicable, a family allowance as specified in the [Horizon 2020 Marie Skłodowska-Curie actions Work Programme 2018-2020](#).

How to apply:

Application deadline: Please send your application **before September 27, 2021**.

Application: Upload all documents via the [APPLY](#) link. Your application should include the following documents:

- Motivation letter for the PhD position
- CV
- Letters of recommendation (at least two)
- Copies of diplomas, including grades

Selection procedure: The first selection round will be an online interview with the representatives of the host institutions and of the secondments. The two best candidates will give a scientific presentation on a subject relevant for the ESR project. Candidates will be selected based on:

- Outstanding academic ability
- Requested skills and experience for the ESR project of interest
- Motivation of the application for the ESR position of interest
- The level to which SkinTERM addresses their training needs and contributes to their future careers

Intended starting date: Successful applicants are expected to start **November, 2021**.

Contact: For more information on the SkinTERM project and application procedure please contact danique.hof@radboudumc.nl.

For more information on this specific ESR10 project please contact Agnes.Klar@kispi.uzh.ch.