

***Applications are invited from enthusiastic and talented young researchers with an active interest in tracer development and translational radiopharmaceutical research for a***

**PhD position in Radiopharmaceutical Sciences**

***in the Translational Radiopharmaceutical Sciences Lab, Department of Nuclear Medicine and Molecular Imaging (CHUV) and Department of Oncology (UNIL/LICR) in Lausanne, Switzerland***

**Scope of the Project**

There is an increasing body of evidence in the literature concerning both the prognostic value of the expression of certain chemokines and especially CXCL12 for disease progression in a multitude of solid cancers as well as its pivotal role in T-cell exclusion. Its expression in the tumor microenvironment seriously challenges the success of cancer therapies, including immunotherapies using immune checkpoint inhibition. Thus, the noninvasive in vivo quantification of CXCL12 expression by/in tumors as well as in the tumor microenvironment may represent a powerful tool with respect to patient selection for targeted therapies or immunotherapy.

It is thus the objective of this research project to develop novel CXCL12 targeted radioligands based on a high-affinity CXCL12 targeted biomolecules and to comprehensively evaluate the potential of such radioligands in vitro and in vivo with respect to their suitability for noninvasive in vivo imaging and quantification of CXCL12 expression using PET or SPECT. Given the fast renal clearance of most hydrophilic, low-molecular weight biovectors, tracer design and development will not only include the selection and implementation of a suitable radiolabeling approach (preferably for fluorine-18 (for PET) or Tc-99m (for SPECT)), but also the adjustment of tracer pharmacokinetics with respect to a suitable plasma half-life and excretion kinetics via the introduction of structural modifications.

**We seek**

*Essential experience and skills:*

- You have a Master's degree in organic chemistry, (radio)pharmaceutical chemistry or similar
- You have already acquired solid practical competences in organic chemistry or medicinal chemistry, including solid phase peptide synthesis, as well as in all aspects of the purification and quality control of synthetic products
- You are at ease operating analytical and preparative HPLC systems
- You have excellent command of English, both spoken and written
- You have a positive, interactive and agile mindset and enjoy continuously expanding your experimental and theoretical competences

*Desirable experience and skills:*

*These criteria are considered advantages, but not requirements.*

- Previous experience in handling radioactivity and performing radiolabeling procedures
- Practical experience with cell culture and in vitro assays
- Practical experience in molecular biology
- Theoretical knowledge of pharmacology and human physiology

## **We offer**

- Integration into a young, growing team of scientists, providing the space and foundation for the development and realization of own ideas and areas of interest
- Modern, high-end research facilities
- An exceptional network of collaboration partners with profound expertise in all areas of drug design and development, oncology, immunology and nuclear medicine (within the UNIL/LICR/EPFL as well as external (national and international))

## **Further information**

Please visit the group's website (<https://www.chuv.ch/trs>) or contact Prof. Dr. Margret Schottelius either directly ([margret.schottelius@chuv.ch](mailto:margret.schottelius@chuv.ch), Phone +41 21 545 1120) or through her secretary Ms. S. Gaillard ([sandra.gaillard@chuv.ch](mailto:sandra.gaillard@chuv.ch), Phone +41 21 314 4347).

## **Application**

Please submit your application as one single PDF file (in English) to:

Prof. Dr. Margret Schottelius (secretary Ms. S. Gaillard, [sandra.gaillard@chuv.ch](mailto:sandra.gaillard@chuv.ch))

The file must include:

- Motivation letter (max 1 page)
- Curriculum Vitae
- Master's degree certificate (if not yet completed, a statement from the main supervisor)
- List of publications (if any), including a brief description of how you contributed.
- Copy of your academic grade transcripts (master's and bachelor's degrees)
- One reference, preferably from supervisor of Master's Thesis.

Please submit your application no later than **December 1st, 2023**.