



UMR 1240 INSERM, UCA

## POST-DOCTORAL POSITION in preclinical radionuclide Imaging

**Research Unit:** UMR 1240 INSERM, IMoST UCA, Clermont Ferrand, France

**Funding acquired:** 18 months post-doctoral contract from now

**Keywords:** PET/CT Imaging, theragnostic, preclinical imaging, radiopharmaceuticals, oncology

### **Scientific context**

In the framework of the acquisition of a state-of-the-art preclinical PET-CT scanner, UMR 1240 INSERM, IMoST UCA localized in Clermont Ferrand, France, is recruiting a postdoctoral researcher to strengthen its molecular imaging research program. This platform will support translational studies mainly in oncology, through quantitative multimodal imaging (PET-CT, SPECT-CT, optical imaging, autoradiography).

**UMR 1240 INSERM, IMoST, UCA** is a research unit, which have 2 trustees (INSERM & Clermont Auvergne University), and works in the field of personalized medicine, mainly oncology, (but not exclusively) with most of the projects having a translational issue in short delays, through the development and validation of target-specific carriers, which can be tagged with a radionuclide, for imaging as well as for vectorised targeted radionuclide therapy (TRT) promoting rapid bench-to bedside and bedside-to-bench translation.

UMR 1240 INSERM/ IMoST brings together specialists of complementary disciplines (chemists, radiochemists, pharmacologists, molecular biologists, researchers in preclinical imaging, medical physicists, oncologists and biopathologists) and high technology platforms, which create a scientific environment for rapid translation from bench to bed and back again.

### **Objectives**

The successful candidate will contribute to the development, optimization, and application of PET-CT imaging protocols for small animal models included in quantitative multi-imaging modalities. Responsibilities include establishing imaging projects, integrating radiotracer studies with complementary biological assays, mainly in oncology, and metabolic research. Objectives will be mainly focused on

- Conducting preclinical studies (primarily rodents - mice and rats) involving radiopharmaceuticals for diagnosis and radionuclide therapies (in vitro uptakes, in vivo biodistribution, therapeutic efficacy)
- Improving image analysis workflows to extract biological data from imaging and to support individualized dosimetry in theragnostic protocols. A central aim is to implement and optimize existing image processing applications for quantitative PET-CT analysis, ensuring robust segmentation strategies (manual and semi-automatic approaches) for accurate tumour and organ delineation in preclinical studies. Additional effort will be placed on partial volume correction, longitudinal (time-lapse) analysis, dynamic quantification, and kinetic modelling to improve therapy response assessment.

- Developing and applying standardized image analysis pipelines and translational impact to ensure reproducible and reliable quantification in theragnostic studies, strengthening the translational relevance of imaging data. Close collaboration with medical physicists within the unit will support quantitative validation and dosimetry modelling, while interactions with clinicians and biomedical researchers will ensure both quantitative validation of these methodologies and alignment with clinically and biologically relevant translational research questions.

### **Profile**

Applicants should have a PhD degree or equivalent in biomedical sciences, with strong background in preclinical physiology.

Candidates are expected to demonstrate:

- Strong background in preclinical evaluation of radiopharmaceuticals
- Proven expertise in preclinical imaging and handling of small animal models (intravenous injection, & tissue processing)
- Proven expertise in quantitative imaging analysis
- Prior experience in medical imaging (PET/CT or SPECT/CT, CT) and in signal or image processing
- Strong analytical, organizational, and communication skills.
- Ability to work in interaction with multidisciplinary investigators.
- Ability to work effectively in a team environment, manage multiple projects simultaneously, and meet deadlines
- Prior experience in theragnostic for oncology applications will be considered a strong asset.

### **Application**

Send a file including CV, cover letter (**not AI generated**) describing background, and interest, as well as a list of 3 recommendations to [Arnaud.briat\\_le\\_mest@uca.fr](mailto:Arnaud.briat_le_mest@uca.fr) and [Leslie.mazuel@uca.fr](mailto:Leslie.mazuel@uca.fr)