

# About Us

Published on May 17, 2020 – Updated on June 5, 2020

UMR 1240 INSERM, IMOST, Clermont Auvergne University, belongs to ITMO "Technologies for Health" and the CLARA Cancer Research Cluster and is highly implicated in the “canceropôle” CLARA. The objectives of UMR 1240 INSERM, IMoST (Molecular imaging and theranostic strategies) are the development of health technologic tools for theranostic strategies, in particular radiopharmaceuticals, with researches mainly dedicated to oncology and being conducted “in parallel” in imaging and biomarkers. IMOST was created in 2017, by merging expertises of the UMR 990 INSERM and the ERTICA team (Research Team on Individualized Cancer Treatment) and CREaT (Cancer Resistance Exploring and Targeting).

IMoST is composed of 81 permanent people, about 15 Ph D students, and 3 post-doctoral students. Three of the permanent members are mutualized technicians

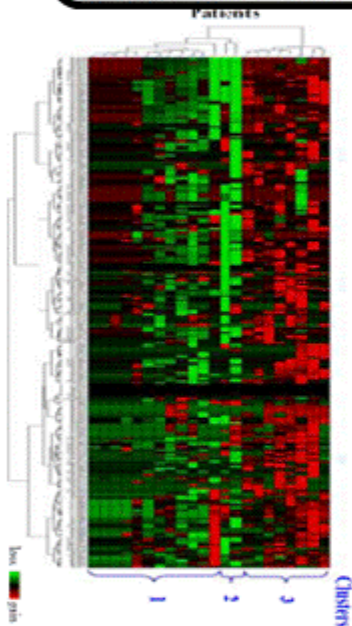
The unit's strategy is based on the development of molecular vectors that selectively address active molecules with diagnostic and therapeutic activity towards a molecular, cellular or tissue target or a signaling pathway. The radiolabeling of these vectors opens up promising fields of application for targeted internal radiotherapy (TRT) and/or scintigraphic imaging. The use of these same vector structures to selectively address a non-radioactive active entity (e.g. targeted therapies, nano-objects, etc.) to these same targets is also developed.

In this context and based on its strong expertise in radiolabeling and the study of response and/or resistance biomarkers, the unit is organized around two teams whose projects are interconnected: research "from bench to bed" and "from bed to bench" is focused on melanoma, chondrosarcoma and triple negative breast cancer (TNBC).

Following preclinical validation by **team 1** of the theranostic strategies envisaged, clinical transfer is handled by **team 2**, notably by exploiting dedicated resources such as the Centre d'Innovation et de Recherche en Médecine Nucléaire (CIRMEN). In return, the identification of biomarkers of response and/or resistance to treatment will be carried out during prospective and retrospective studies in order to identify new targets and validate relevant therapeutic options. New targets/vectors will be developed for TRT, as well as pre-targeting strategies for radioimmunotherapy. The development of novel radiolabels and/or those that can be exploited in PET imaging will be widely promoted.

**Biopathologie moléculaire**  
⇒ **Biomarqueurs compagnons**

Im  
⇒



*Niveau d'expression des cibles inter et intra t*



*dissémination,  
réponse, résistance  
tumeurs résiduelles post t*



**Recherche transversale et translationnelle**

**De la conception de vecteurs spécifiques des cibles  
pour l'imagerie et la thérapie**

**⇒ au patient**

These transversal and translational researches are made possible by the multidisciplinary skills and expertise of staff, i.e. chemists, radiochemists, pharmacologists, molecular biologists, experimental pharmacology and imaging researchers, nuclear medicine physicians, oncologists, and pathologists.

Expertises are reinforced by the complementary of cutting edge high technological platforms dedicated to chemistry, radiochemistry, genomics/post-genomics, experimental pharmacology and in vivo small animal imaging (SPECT, PET, optics, and CT).

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