



*Unit Director*  
Irène Buvat

The laboratory of **Translational Imaging in Oncology** (LITO) is a mixed research unit (UMR 1288) created on 1/1/2020 and supported by Inserm (=French NIH) and Institut Curie, the 1st cancer center in France. LITO is the continuation of the In Vivo Molecular Imaging lab (IMIV, UMR 1023) created in 2015 for 5 years (2015-2019).

LITO includes about 30 researchers, physicists, engineers, MDs, PharmDs, and technologists and is organized in two research groups with complementary activities:

- The first group is the **Biomarkers for Phenotype Imaging** group and is dedicated to the design and evaluation of innovative radiotracers for molecular imaging using Positron Emission Tomography (PET) to target molecular mechanisms key to cancer development. The goal of this group is twofold: first, better understand the mechanisms underlying cancer development and response or resistance to treatment, second optimize patient management through the identification of imaging phenotype assisting personalized medicine.
- The second group is the **Integrated Radiomics for Precision Medicine** group. This group takes advantage of PET biomarkers, but also biomarkers from Magnetic Resonance Imaging (MRI) and computer tomography (CT) and combines these biomarkers with other types of biomarkers (clinical, pathological, omics, from liquid biopsies) to profile the cancer disease for prognostic or predictive purpose. The models are also developed in such a way that they contribute to a better understanding of cancer-related processes.

## Key publications

### Year of publication 2020

---

Sebastian Müller, Fabien Sindikubwabo, Tatiana Cañeque, Anne Lafon, Antoine Versini, Bérangère Lombard, Damarys Loew, Ting-Di Wu, Christophe Ginestier, Emmanuelle Charafe-



## UMR 1288 – Translational Imaging in Oncology Biology & Chemistry of Radiations, Cell Signaling and Cancer

Jauffret, Adeline Durand, Céline Vallot, Sylvain Baulande, Nicolas Servant, Raphaël Rodriguez  
(2020 Oct 1)

### **CD44 regulates epigenetic plasticity by mediating iron endocytosis**

*Nature Chemistry* : 12 : 929-938 : [DOI : 10.1038/s41557-020-0513-5](https://doi.org/10.1038/s41557-020-0513-5)

Nicolò Capobianco, Michel A Meignan, Anne-Segolene Cottereau, Laetitia Vercellino, Ludovic Sibille, Bruce Spottiswoode, Sven Zuehlsdorff, Olivier Casasnovas, Catherine Thieblemont, Irène Buvat (2020 Jun 14)

### **Deep learning FDG uptake classification enables total metabolic tumor volume estimation in diffuse large B-cell lymphoma.**

*Journal of nuclear medicine : official publication, Society of Nuclear Medicine* : [DOI : jnumed.120.242412](https://doi.org/10.2967/jnumed.120.242412)

Catriona Wimberley, Duc Loc Nguyen, Charles Truillet, Marie-Anne Peyronneau, Zuhul Gulhan, Matteo Tonietto, Fawzi Boumezbeur, Raphael Boisgard, Sylvie Chalon, Viviane Bouilleret, Irène Buvat (2020 Mar 27)

### **Longitudinal mouse-PET imaging: a reliable method for estimating binding parameters without a reference region or blood sampling.**

*European journal of nuclear medicine and molecular imaging* : [DOI : 10.1007/s00259-020-04755-5](https://doi.org/10.1007/s00259-020-04755-5)

#### **Year of publication 2019**

---

Claire Provost, Hamid Mammari, Anne Belly-Poinsignon, Olivier Madar, Laurence Champion (2019 Nov 7)

### **Pharmacokinetic Analysis of [18F]FAZA Dynamic PET Imaging Acquisitions for Highlighting Sacrum Tumor Profiles.**

*Clinical nuclear medicine* : e36-e38 : [DOI : 10.1097/RLU.0000000000002813](https://doi.org/10.1097/RLU.0000000000002813)

Irène Buvat, Fanny Orhac (2019 Sep 22)

### **The Dark Side of Radiomics: On the Paramount Importance of Publishing Negative Results.**

*Journal of nuclear medicine : official publication, Society of Nuclear Medicine* : 1543-1544 : [DOI : 10.2967/jnumed.119.235325](https://doi.org/10.2967/jnumed.119.235325)

Anne-Ségolène Cottereau, Christophe Nioche, Anne-Sophie Dirand, Jérôme Clerc, Franck Morschhauser, Olivier Casasnovas, Michel Meignan, Irène Buvat (2019 Jun 16)

### **F-FDG PET Dissemination Features in Diffuse Large B-Cell Lymphoma Are Predictive of Outcome.**

*Journal of nuclear medicine : official publication, Society of Nuclear Medicine* : 40-45 : [DOI : 10.2967/jnumed.119.229450](https://doi.org/10.2967/jnumed.119.229450)



UMR 1288 - Translational Imaging in Oncology  
**Biology & Chemistry of Radiations, Cell Signaling and Cancer**