

# *L'imagerie optique pour la validation d'agents théranostiques en oncologie*

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Improving cancer diagnosis, targeted therapy, oncological but also reconstructive surgeries are major fields of investigation.

We develop nanovectors and optical instrumentation that could help for these different purposes. The nano-cargos that we study differ by 1) their molecular organization, 2) size (diameter of 2.5 to 250 nm), 3) surface coating, 4) the presence of specific ligands and 5) the drug or prodrug they can deliver. As an exemple, we recently generated multifunctional, ultrasmall nanoparticles that can be detected using MRI, SPECT and optics and that can serve to augment the efficiency of radiotherapy.

To visualize them in vivo, we developed several near-infrared optical imaging systems that are adapted for the non-invasive and real time follow up in preclinical as well as clinical trials.

I will present our latest results obtained in surgical applications as well as radiotherapy.

This work was performed with the participation of:

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