

# NLITE

FLT IMAGING AND NANOBODIES: EFFECTIVE TOOLS FOR LIFE SCIENCES AND MEDICAL APPLICATIONS

NLITE is a multidisciplinary research team, bringing together medical doctors (Prof. Dr. Tony Lahoutte) and medical scientists (Prof. Dr. Ir. Sophie Hernot) from the laboratory of In vivo Cellular and Molecular Imaging (ICMI-BEFY/MIMA), as well as engineers of the research lab Laboratory for Micro- & Photonelectronics (LAMI) from the department of Electronics and Informatics (ETRO) (Prof. Dr. Ir. Maarten Kuijk, Dr. Ir. Hans Ingelberts) to advance solutions in optical imaging and associated contrast agents, in particular Fluorescence Lifetime (FLT) imaging and nanobody-based agents **as an effective tool for life sciences and medical applications.**



2 research groups



12 researchers



2 patent applications

## CONTACT

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## OUR EXPERTISE

The NLITE consortium has a dedicated team of specialists and technicians with access to state of the art optical and silicon sensor development facilities as well as centralized multiple small animal imaging modalities including MicroSPECT/PET/CT, MRI, Optical imaging, MicroCT and Ultrasound together with a unit for probe development and a vivarium for the housing of animals in one laboratory.

The expertise of the consortium is focused on the following research lines:

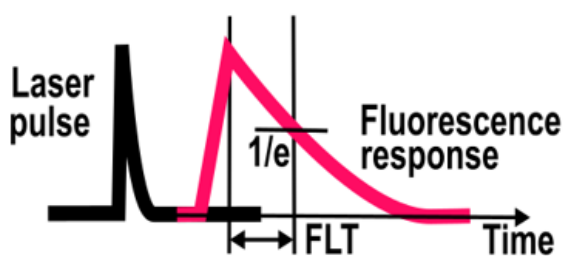
- Design and development of novel silicon sensors for FLT imaging
- Design and development of novel FLT imaging devices
- Introduction of new breakthrough applications using FLT imaging
- Design and preclinical validation of fluorescent contrast agents towards clinical translation, with a particular focus on fluorescence-guided surgery

## OUR INTEREST

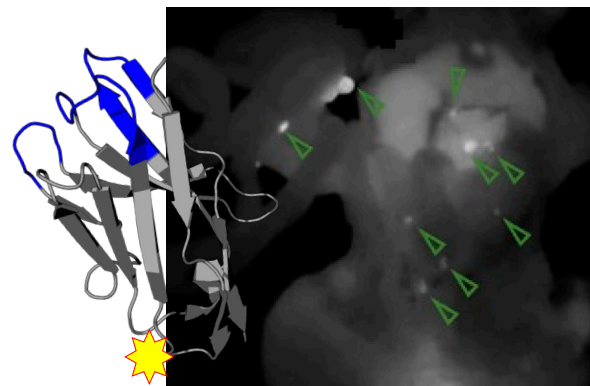
NLITE is focused on preclinical and clinical fluorescence imaging and invites researchers, biotech and pharmaceutical companies to collaborate on the following topics:

- Development of the FLT imaging technology for (pre)clinical applications with industrial and academic partners
- Design and development of a FLT device based upon the FLT imaging principles and the related methods, algorithms and software and data processing
- New tracks for nanobody-based fluorescent tracers
- Interdisciplinary research efforts which encompass the development and validation of innovative fluorescence-based contrast agents and/or tracers and their application in preclinical and translational research.

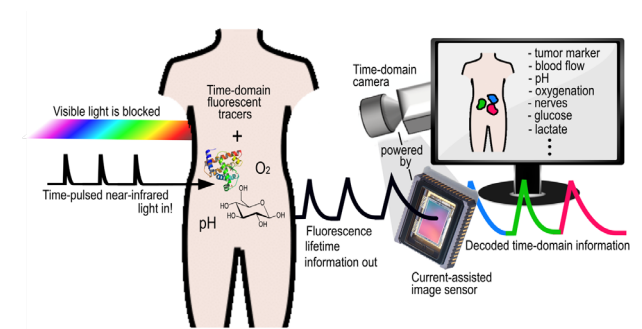
Some can be executed based on the research lines of the consortium and others can be conducted on the basis of contract research.



FLT is the measure for the sub-nanosecond decay of fluorescence



Sub-millimeter-sized tumor lesions are highlighted in real-time during surgery



Introducing FLT as real-time access to molecular and physiological information