

ID: MSCA-2020-RVHeijningen01

Title: Real-time imaging of fluorescence lifetime

The project proposes to research a next-generation imaging platform capable of revealing in real-time new and 1more accurate information related to a patient's body and its diseases through an innovative time-domain fluorescence imaging (tdFLI) technology. Real-time imaging of fluorescence lifetime (FLT), deep into the patient, permits the unlocking of rich information, where today's medical imaging systems, including other optical systems, remain in the dark. By imaging the timescale behaviour of NIR fluorescence light, the environment of fluorescent molecules deep within tissue can be sensed. This offers the unique opportunity to accurately, remotely and in real-time report about molecular and cellular events, (patho)physiological conditions, or metabolic parameters. This novel, breakthrough technology is expected to find in first instance broad applicability during surgery, where it will influence intraoperative decision-making on a per patient basis. The results of this research will open new medical avenues for this pioneering technology in a variety of other fields where patients can benefit from the advantages of light-based diagnostics for safe and continuous health monitoring.

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Research Group: <http://www.etrovub.be/RESEARCH/LAMI/>

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