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11:00 AM



Dr. Sara LACERDA

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BACKGROUND

Sara Lacerda received her PhD from the University of Lisboa (2009) during which she developed and studied theranostic agents.

After, she did a short postdoc at the University of Lübeck (Germany) on Fragment-Based Drug Discovery. In 2010-2012, she focused on bimodal Optical/MRI lanthanide-based nanoparticle contrast agents, at Centre de Biophysique Moléculaire (CBM, Orléans, France). From 2013 to 2015, she worked as a Research Associate at King's College London (UK). There, she developed on PET/MRI contrast agents targeted for cardiovascular diseases.

In 2016 she re-joined CBM as CNRS Researcher. Her current project focuses on multimodal peptide-based contrast agents.

She has published >45 papers in international peer-reviewed journals (*h-index* 20), 1 patent and 7 book chapters.

She is also Co-Scientific Manager of the In vivo Imaging Centre, CNRS Orléans.

Towards better detection of cardiovascular disease and metastatic cancer



Despite advanced screening technology and treatments available today, and the successful implementation of several primary and secondary prevention strategies, cancer and cardiovascular diseases (including atherosclerosis) remain the most common cause of premature death and lifelong disability. Such conditions benefit highly from early non-invasive diagnosis, enabling more appropriate and effective treatment choices.

Molecular imaging of specific biomarkers provides improved understanding of the disease, early diagnosis and insights of disease progression. Follow-up of treatment, drug delivery and potential patient stratification are also of main importance.

*Amongst the highly explored "smart" targeted contrast agents, tailored peptide-based contrast agents have gain increased attention. Design strategy of such contrast agents include radioiodination of one amino acid residue, incorporation of reactive groups for further radiofluorination or optical detection, introduction of a Gd³⁺ binding site into a scaffold protein, or the conjugation of peptides to bifunctional chelating agents to enable coordination of metals/radiometals of interest (Lacerda, *Inorganics* 2018).*

*Novel peptide-based contrast agents specific for Tropoelastin (*Circ Cardio Imaging* 2018, *Cardiov Res* 2019), Type III Collagen (*npj Imaging* 2024) and Netrin-1 (*Bioconjugate Chem* 2024) will be presented.*

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