



Postdoctoral position Organic chemistry and radiochemistry

Position 18 months position funded by INSERM (French institute for research in health and medicine),
Availability: June 2021,
Salary : around 2200 €/month
Location : BioMaps (CEA-SHFJ, Orsay)

Job description Molecular imaging is part of standard care for many cancer types. Positron Emission Tomography (PET) associated with radiotracers labeled a positron emitter is a gold standard for functional, metabolic and quantitative imaging of relevant biomarkers. Ultrasound (US) is a broadly available, cost-effective and real-time imaging modality for anatomical and functional imaging for diagnosis. In addition, its mechanical ability to permeabilize membranes is also expected to play a crucial role in therapy via drug delivery enhancement. In the frame of the IMPETUS project funded by INSERM we aim to leverage the best profit of both modalities to provide improved theranostic applications in oncology.

The recruited student will have to develop original strategies to radiolabel microbubbles (US contrast agents) with fluorine-18 and to participate to the formulation of targeted microbubbles to improve their biodistribution in vivo. Bioconjugation approaches including click chemistry will be explored to achieve the above-mentioned goal. Radiolabeling of nanoparticles and antibodies with zirconium-89 will also be part of the project.

The IMPETUS project involves 3 academic laboratories expert in radiochemistry and PET as well as US imaging/therapy (BioMaps, CEA, where the postdoc student will be recruited), MB formulation and delivery (Centre de Biophysique Moléculaire, Orleans) and technological US devices (GREMAN, Université de Tours)

The Paris Saclay Multimodal Biomedical Imaging Laboratory (BioMaps) aims to design biomedical imaging methods, instruments and agents for different imaging modalities and their transfer to clinical applications in neurology and oncology. BioMaps intends to be a major player in medical imaging research at the Physics-Chemistry-Medicine interfaces of Paris-Saclay.

Application PhD in organic chemistry with a strong organic synthesis background. Experience in radiochemistry of positron emitters or US contrast agent chemistry appreciated.

Applicants are invited to send a CV, cover-letter, list of publications and references to: Bertrand Kuhnast, bertrand.kuhnast@cea.fr