



Postdoctoral position in microfluidics / organic chemistry

Subject: Development of microfluidic-based strategies for the synthesis of labeled biologics (^2H , ^3H)

Domains: Microfluidics / Organic chemistry / Isotopic Labeling / Flow Chemistry / Photochemistry

Job description: The RaMM project (radiolabeling in microfluidics) is based on a radically new concept for the isotopic labeling of high added-value molecules with stable and radioactive hydrogen isotopes (deuterium and tritium). It combines two complementary expertises: isotopic labeling & microfluidic-based technologies. The main objectives of the post-doctoral researcher will be to design and implement new miniaturized radiolabeling strategies on-chip for the labeling of complex and fragile biologics molecules (e.g. peptides) that are of great interest in pharmacokinetic studies and therapeutic applications. He/She will work on the hydrogen direct isotope exchange using flow chemistries (in meso- (mL) & microfluidics (μL)).

This position will involve a close interaction between two teams from the Medicines and Healthcare Technologies Department (DMTS) at CEA:

1) Microfluidic developments will be carried out at the Immunoanalysis Studies and Research Laboratory (LERI), focused on the development of diagnostic and detection tools.

[Frédéric Joliot Institute for Life Sciences - Immunoanalysis Studies and Research Laboratory \(cea.fr\)](http://cea.fr/joliot)

2) Isotopic labelling will then be performed at the Tritium labeling laboratory (http://joliot.cea.fr/drf/joliot/en/Pages/research_entities/medicines_healthcare_technologies/sbcm/lmt/tritium-labeling.aspx).

Candidate profile: We are looking for outstanding candidates with the following skills:

- A PhD in organic chemistry or microfluidics or related fields (physics, engineering, flow chemistry)
- Excellent knowledge in microfluidics with experience in microfabrication/imaging/instrumentation
- Strong skills in organic chemistry, knowledge in photochemistry will be appreciated
- Fluent English, both written and spoken, is mandatory
- Real motivation and ability to work in collaboration across disciplines and autonomously
- Strong interpersonal, organizational and communication skills are a must.

Starting date: Autumn 2021 (18-months position)

Location: CEA-Saclay, 91191 Gif sur Yvette – France, within the Paris-Saclay University. (20 km from Paris via public transportation, private bus shuttle service - Paris and Ile de France Region)

How to apply: Applicants should send their CV, a cover letter motivating their interest for the position, a list of current publications and the names and addresses of two referees to Karla PEREZ-TORRALLA (karla.pereztoralla@cea.fr) & Sophie FEUILLASTRE (sophie.feuillastre@cea.fr).

Selected publications:

- 1) M. Lepron, *et al.*, *Acc. Chem. Res.* **2021**, *54*, 1465-1480; 2) M. Daniel-Bertrand, *et al.*, *Angew. Chem. Int. Ed.* **2020**, *59*, 21114-21120; 3) A. Palazzolo, *et al.*, *Angew. Chem. Int. Ed.* **2020**, *59*, 20879-20884; 4) V. Pfeifer, *et al.*, *Chem. Eur. J.* **2020**, *26*, 4988-4996; 5) A. Palazzolo, *et al.*, *Angew. Chem. Int. Ed.* **2019**, *58*, 4891-4895 (selected "Hot paper"); 6) K. Perez-Toralla, *et al.*, *Adv. Science*, **2020**, *7*(15), 2000769; 7) K Perez-Toralla, *et al.*, *Sens. Actuator B-Chem.* **2019**, *286*, 533-539.