



Postdoc position in bioorganic / bioinorganic chemistry available in Grenoble, France

Luminescent lanthanide complexes for live cell microscopy

Lanthanide complexes with push-pull antennas for the sensitization of their luminescence have demonstrated their high potential for cell imaging, especially due to their biphotonic absorption properties, which allows excitation in the near infrared. In the frame of the LANTEN project, we aim at developing luminescent lanthanide bioprobes for biological imaging of cells or small animals that operate in the near infrared for both excitation and emission. In this respect, we will design peptide-lanthanide complex conjugates in which the peptide serves as targeting unit to vectorize the lanthanide complex into cells. The recruited postdoc will have two objectives: (1) the synthesis and characterization of europium and ytterbium-based probes and their assessment for biphotonic microscopy of live cells and (2) the design of responsive probes to detect various cations such as H^+ , Mg^{2+} , Zn^{2+} or small molecules such as H_2S or $HOCl$.

The recruited postdoc will be in charge of the synthesis of some macrocyclic ligands with push-pull antennas for lanthanide binding, of the synthesis of conjugates, of spectroscopic studies, especially luminescence, for the characterization of the probes in aqueous solution and of cell microscopy.

We are looking for a Ph.D. in chemistry with a strong expertise in organic synthesis, in coordination chemistry and highly motivated by the field of fluorescence probes and microscopy imaging. The selected candidate must master purification of organic compounds and/or biomolecules by chromatography techniques as well as NMR characterizations. Knowledge in fluorescence and mass spectrometry will be appreciated.

The recruited postdoc will join the "Metallopeptides" group of the Chemistry and Biology of Metals lab. (joint lab from CEA, Univ. Grenoble Alpes and CNRS) led by Olivier Sénèque. The project is within the frame of the LANTEN project. Other partners of this project are Raphaël Tripier (Univ. Bretagne Occidentale, Brest, France), Olivier Maury (ENS, Lyon, France) and Magali Gary Bobo (IBMM, Montpellier, France).

Duration: 15-18 months depending on experience.

Gross salary: 2905€ to 4081€ / month depending on experience

Contact: email to olivier.seneque@cea.fr

Application: <https://emploi.cnrs.fr/Offres/CDD/UMR5249-OLISEN-004/Default.aspx>