

Post-doctoral position

A postdoctoral position is available in the team “Chemistry and Modelling for Protein Recognition” (<https://science.institut-curie.org/research/biology-chemistry-of-radiations-cell-signaling-and-cancer-axis/cmbc/chemistry-and-modelling-for-protein-recognition/>) at the Chemistry and Modeling for the Biology of Cancer Unit (UMR9187-U1196, Institut Curie).

Despite the growing interest in the development of fluorophores for live-cell imaging, challenges still remain to be tackled.^[1] An ideal fluorophore should be water-soluble, photostable, cell-permeant and should absorb and emit at wavelengths compatible with live-cell imaging. Two-photon excitation offers a great opportunity to fulfill these last criteria and the team has a long expertise in the development of two-photon excitation fluorophores.^[2] In this project, we would like to develop fluorogenic click reactions with two-photon excitable probes. The design relies on the conjugation of a fluorophore with a fluorescence quencher. A biorthogonal fluorogenic click reaction with a partner (*e.g.* a drug) should allow the cellular localization of the click partner with an optimal signal / background ratio. The project involves the design and synthesis of the probes, the evaluation of their photophysical properties and their imaging through one- and two-photon excitation microscopy.

An expertise in organic synthesis and optical (fluorescence) spectroscopy is required; basic knowledge in cell culture and fluorescence microscopy would be appreciated.

This 12-month position (renewable) is due to start in September 2021. Applicants are required to send a CV and a cover letter as soon as possible.

Contact person: Dr Florence Mahuteau-Betzer, florence.mahuteau@curie.fr

[1] A. S. Klymchenko, *Accounts of chemical research* **2017**, *50*, 366-375.

[2] a) B. Dumat, G. Bordeau, A. I. Aranda, F. Mahuteau-Betzer, Y. El Harfouch, G. Metge, F. Charra, C. Fiorini-Debuisschert, M. P. Teulade-Fichou, *Org Biomol Chem* **2012**, *10*, 6054-6061; b) B. Dumat, G. Bordeau, E. Faurel-Paul, F. Mahuteau-Betzer, N. Saettel, G. Metge, C. Fiorini-Debuisschert, F. Charra, M. P. Teulade-Fichou, *J. Am. Chem. Soc.* **2013**, *135*, 12697-12706; c) F. Hammerer, F. Poyer, L. Fourmois, S. Chen, G. Garcia, M. P. Teulade-Fichou, P. Maillard, F. Mahuteau-Betzer, *Bioorganic & medicinal chemistry* **2018**, *26*, 107-118; d) M. Auvray, F. Bolze, G. Clavier, F. Mahuteau-Betzer, *Dyes and Pigments* **2021**, *187*, 109083.