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Open position on
"Imaging the T cell signalosome organization"

An open position for three years is available in the HE & MARGUET laboratory at the CIML to study the functional crosstalk that exists between the TCR, costimulators and coinhibitors by single molecule localization microscopy and live cell imaging.

► Our team aims at developing a relevant framework at the conceptual, experimental and methodological levels to decipher the functional contribution of the lateral organization and dynamics of the plasma membrane in the context of the T cell receptor signaling.

► The position is available within the frame of a collaboration with Bernard & Marie MALISSEN (CIML) in the context of an ANR funded project starting in January 2019. This project aims at covering different spatial and temporal scales to elucidate the composition, stoichiometry, dynamics, and spatial organization of the CD28 costimulatory pathway of primary T cells triggered by physiological stimuli. Accordingly, it requires to combine state-of-the-art biochemical, genetic, imaging and computational approaches. The candidate will closely cooperate with biologists and physicists using mouse genetic models, cell culture, biochemical, photonic and computational techniques to address these questions.

► We will consider both candidates at the postdoc or research engineer level with strong experience in one or several of the following areas: live cell imaging, fluorescence correlation spectroscopy, single molecule localization microscopy or related fields with a relevant experience. She/he should have a good knowledge in in the use and application of algorithms and analytical methods for quantitative cell biology imaging. She/he should have good organizational skills, a strong interest in the underlying biology and the motivation to learn or develop new analytical methods.

► Applicants should have a PhD obtained less than two years ago or being in the process of completing one. She/he will have the opportunity to interact with a community of cell biologists and physicists as well as with the engineers of the imaging core facility at CIML. The position is open on January 2019 and candidates will be considered until it is filled.

Please address application with a detailed CV and two references to Didier MARGUET - marguet@ciml.univ-mrs.fr

Relevant publications related to the project:

1. Dynamic multiple-target tracing probes spatiotemporal cartography of cell membranes
Sergé A, Bertaux N, Rigneault H, Marguet D Nat Methods 2008 5:687-94
2. Glycosylation-Dependent IFN-γR Partitioning in Lipid and Actin Nanodomains Is Critical for JAK Activation. Blouin CM*, Hamon Y*, Gonnord P* …… He HT#, Lamaze C# Cell 2016 166:920-34 (#co-senior author)
3. A straightforward STED-background corrected fitting model for unbiased STED-FCS analyses. Wang R, Brusltein S, Mailfert S, Fabre R, Fallet M, Sivankutty S, Rigneault H#, Marguet D# Methods 2018, 140-141:212-222 (#co-senior author)
4. A theoretical high-density nanoscopy study leads to the design of UNLOC, a parameter-free algorithm. Mailfert S …… Marguet D#, Bertaux N# Biophys J 2018, 115:565-576 (#co-senior author)
5. Switch of the Plasma Membrane Dynamic State Promotes the Initiation of TCR Signaling. Sartre AM*, Hamon Y* …… Marguet D and He HT Submitted (*co-first author)

The CIML is a world-class immunology institute with a tradition of high quality research. It provides an exceptional international research environment, with a renowned graduate program. The CIML is currently composed of 200 members in 14 research groups and 6 scientific core facilities. The CIML is located campus in the Calanques national park in the south of France and is affiliated with Inserm, CNRS and Aix-Marseille University.