Postdoctoral position in Zebrafish Immunology (Montpellier, south of France)

The team **Onset of Immunity/Immune Cell activation** of the Laboratory of Pathogen-Host Interaction in Montpellier, is looking for a talented postdoctoral fellow to work on the dynamics of macrophage polarization in response to a wound. The optical transparency of the zebrafish larva provides the ability to visualise immune cells in their activated state using transgenic approaches to understand immune response in the host. The aim of the project is to use the many advantages of zebrafish to dissect molecular mechanisms involved in macrophage polarization switch during wound healing.

The postdoc position is funded for two years through a 1-year contract to be renewed.

The young scientist will be involved in the design and implementation of the experiments. This will include manipulating the immune response of the zebrafish embryo and larvae through mutants or phenocopies of, triggering the immune cells through different stimuli (wounds and infections), live imaging in the zebrafish larva, preparing samples for single cell RNA-seq, developing new transgenic reporter or mutant lines and data analysis.

The candidate should hold a Ph.D. in biological sciences with an expertise in the zebrafish model and/or in the field of immunology. Knowledge in the CrispR/Cas9 system would be appreciated or skills in computational analysis.

The candidate should harbor excellent skills in the organization of his/her work and in interacting with a team. He/She should be able to speak and write in English language.

Interested applicants should send their CV, a letter of motivation, and the names and e-mails of 2 references to Mai Nguyen-Chi (mai-eva.nguyen-chi@umontpellier.fr) and Georges Lutfalla (georges.lutfalla@umontpellier.fr) or should apply via the CNRS portal (https://emploi.cnrs.fr/offres.aspx).

Selected publications of the hosting team:


Work environment

Montpellier is one of the best place in France for life science research and the best place, in France, to study host pathogen interactions in the Zebrafish model. The Laboratory of Pathogen Host Interaction (LPHI) is a very well funded department with grants from the H2020 excellence pillar (ERC and MSCA-ETN) and from many other national and international funding bodies. With more than 15 nationalities represented, the working language is English.

Research at Laboratory of Pathogen Host Interaction (LPHI) focuses on the study of host-pathogen interactions, with emphasis on infections by parasites (Plasmodium, Toxoplasma), bacteria (Mycobacterium, Staphylococcus, Salmonella) and viruses (virus particle biogenesis and antiviral defenses). Three main axes are developed: parasitology, microbiology and immunology. While some groups are using mammalian systems, the zebrafish is widely used at LPHI.

The team in which the candidate will be recruited uses the zebrafish as a model system to studying innate host defense mechanisms involved in bacterial infections and innate immune responses during wound healing. The optical transparency of the zebrafish embryo combined with innovative technics in cell labelling provides an outstanding opportunity to visualize innate immune cells including neutrophils and macrophages during an infection or a tissue injury. In this context we study how the phagocytes respond to environmental signals and change their fate. This project, funded by the French National Research Agency (ANR), will be more particularly focused on the dynamics of macrophage polarization during wound healing.

The group has acquired an international renown in the generation of transgenic lines that are instrumental for immune studies and that have been asked by laboratories all over the world.

The candidate will be supervised by Mai Nguyen-Chi in the team of Georges Lutfalla « Onset of immunity and inflammation ». He/She will have access to the zebrafish facility of the university of Montpellier and all the innovative techniques in microscopy and genomic analysis thanks to the platforms of Montpellier, MRI and MGX.