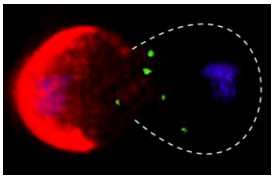
POSTDOC POSITION in NICE, FRANCE:
Endocytosis & signalling in animal development

A postdoc position is available immediately in the lab of Maximilian Fürthauer at the Institut de Biologie de Valrose in Nice/France. Our work at the interface between cellular and developmental biology uses Zebrafish and *Drosophila* to understand how the functional compartmentalization of cellular membranes contributes to the regulation of cell signalling in animal development.

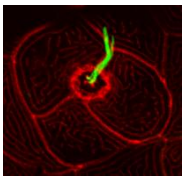
Localizing signalling molecules in development: endocytic transport of Zebrafish Delta ligands

Signalling molecules have to be targeted to precise environments to exert their function. We have previously pioneered an imaging approach to visualize *in vivo* the intracellular transport of endogenous Delta ligand and Notch receptor molecules in asymmetrically dividing of *Drosophila* sensory organ precursor cells. This enabled us to show that the directional movement of Delta/Notch-containing endosomes is important to bias developmental cell fate decisions *(Nature 458, p.1051-55)*. More recently we adapted this technique to the Zebrafish, allowing us to image for the first time the intracellular trafficking of endogenous signalling molecules in a living, intact vertebrate embryo. Currently, we are using this approach to dissect the mechanisms that govern Delta transport and determine their importance for Notch signalling in vertebrate neurogenesis.



Shaping a signalling antenna: Endocytic trafficking and ciliogenesis

Cilia highly specialized membrane domains that protrude into the extracellular space and play a major role in intercellular communication. After being long time neglected, it has recently emerged that cilia are essential for both embryonic development and adult homeostasis by allowing cells to communicate with their environment by chemosensation, mechanosensation and the creation of fluid flows. Starting form a functional analysis of endocytic trafficking regulators in the Zebrafish, we have uncovered surprising new implications of the intracellular vesicular transport machinery in the biogenesis and function of different ciliated organs. Using both Zebrafish and *Drosophila*, we are currently characterising the importance of selected components of the endo-lysosomal system for ciliary biogenesis and function.



Qualification & Experience

Candidates should be highly motivated to use and develop functional imaging assays for intracellular transport processes in living embryos. Expertise in cell biology will be considered highly beneficial. Experience with Zebrafish or *Drosophila* is advantageous but not required. The position is open immediately with funding available for an initial one year period. The Institut de Biologie de Valrose is located in the heart of Nice and provides a highly dynamic research environment with an internationally recognized expertise for the cellular analysis of developmental processes.

Contact information

Candidates should send their CV, a description of their scientific achievements and the contact information of two referees to:

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