

2 years ANR-Funded Postdoctoral Position

Location : Grenoble Institute of Neurosciences

Team “Neuro-Cytoskeleton Dynamics & Structure”, Chemin Fortuné Ferrini, 38700 La Tronche, FRANCE.

<https://neurosciences.univ-grenoble-alpes.fr/>

Title: Impact of the microtubule-depolymerizing ATPase Fidgetin-like 1 on actin cytoskeleton and on microtubule/actin crosstalk

Summary of the project:

The wiring of neuronal circuit relies on the accurate navigation of axons towards their targets. Aberrant connections during development can lead to major neurological disorders. The guidance signals that wire the brain are mostly known. However, how these cues are integrated and translated into microtubule/actin-based growth cone mechanical behaviors are largely unknown. Preliminary data suggest that **Fidgetin-like 1**, a microtubule-depolymerizing ATPase, acts as an integrator of repulsive cues that regulates both microtubule and actin dynamics to steer growing axons.

(Fassier C, et al. (2018) Motor axon navigation relies on Fidgetin-like 1-driven microtubule plus end dynamics. *J Cell Biol* 217(5):1719-1738).

The project aims at exploring the role of Fidgetin-like 1 in cytoskeleton dynamics and decode how this ATPase coordinates microtubule/F-actin remodeling to control axon guidance and neuronal connectivity, in coordination with Dr. Coralie Fassier, Institut de la Vision, Paris, France.

Using a set of cell-free assays combined with microscopy techniques, the post-doctoral fellow will investigate how **Fidgetin-like 1 control actin nucleation, dynamics and structural organization, and contribute to the crosstalk between actin and microtubule cytoskeletons.**

Keywords: Actin dynamics, actin/microtubule crosstalk, cell-free reconstituted systems, protein biochemistry, advanced-light microscopy

Required profile: This ANR-funded project offers a two-year post-doctoral contract. We are looking for candidate with strong background in biochemistry and/or in cell biology. Solid interest in cytoskeleton dynamics will be a plus.

Application:

If you are interested, we encourage you to apply by sending your application to

Annie Andrieux (annie.andrieux@univ-grenoble-alpes.fr)

Isabelle Arnal (isabelle.arnal@univ-grenoble-alpes.fr).

Applications must include a CV, a cover letter and contact details of two academic references.

