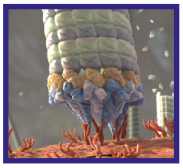
# Postdoc to study microtubule regulation



## CONDUIT LAB
## PARIS
**Institut Jacques Monod, Paris**

**Want to do a postdoc in the heart of Paris? Want to study microtubules? Read on!**

**Microtubules** are essential cell components linked to many human pathologies. They are nucleated by muti-protein **gamma-tubulin ring complexes (γ-TuRCs)**, which are themselves potential targets for cancer therapy. Microtubule nucleation needs to be tightly controlled to allow cells to form their complex microtubule networks. For this, γ-TuRCs remain inactive in the cytosol and are activated only after recruitment to centrosomes during mitosis. This activation step appears to be mediated by the binding of CM1 domain proteins, but the activation mechanism remains unknown. In *Drosophila*, the CM1 domain protein **Centrosomin (Cnn)** binds and recruits γ-TuRCs to centrosomes during mitosis. We recently showed that Cnn is auto-inhibited from binding γ-TuRCs in the cytosol, but that disrupting this auto-inhibition resulted in ectopic microtubule nucleation throughout the cytosol and to cell division defects (Tovey et al., 2021, JCB). The successful applicant will now explore how the binding of Cnn's CM1 domain activates γ-TuRCs.

Duties:
- Purify γ-TuRCs and Cnn protein fragments using affinity chromatography.
- Use single molecule TIRF microscopy to image microtubule nucleation events.
- Coordinate with collaborators to perform cryo-EM structural characterisation.
- Perform experiments *in vivo* using the powerful fly model system.

This position is funded by an Agence Nationale de la Recherche (ANR) grant and will be open from January 2023. Funding available for 3 years in first instance. **Application deadline 21st Nov 2022**

Required to apply:
- PhD in cell biology
- A published first author paper (BioRxiv papers acceptable)
- Interest in microtubule biology

Desirable:
- Experience with protein purification
- Experience with TIRF microscopy
- Knowledge of γ-TuRC biology

Applicants should send a CV, cover letter and contact information for one or two mentors or supervisors who can provide a letter of recommendation to Paul Conduit (**paul.conduit@ijm.fr**). Informal enquiries about the project and job responsibilities are welcome.

## Details of our work can be found on the IJM website: https://www.ijm.fr

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Mukherjee A, Brooks P, Bernard F, Guichet A, Conduit PT. (2020) Microtubules originate asymmetrically at the somatic golgi and are guided via Kinesin2 to maintain polarity within neurons. Elife. 9:e58943. doi: 10.7554/eLife.58943. PMID: 32657758

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