

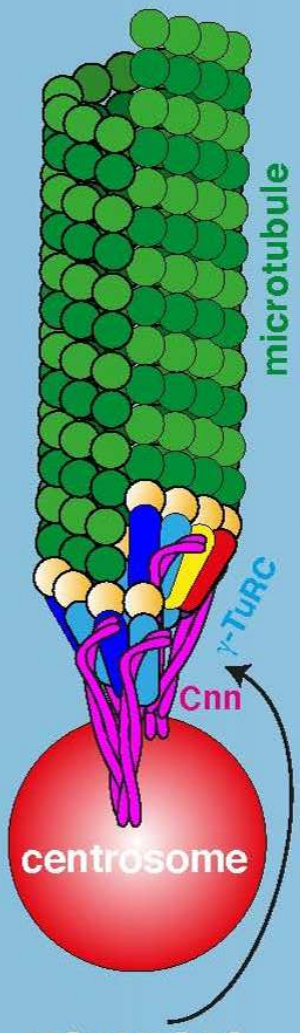
BIOCHEMIST/CELL BIOLOGIST WANTED!!
POSTDOC OPPORTUNITY:

Understanding how γ-TuRC binding and activation is regulated

Conduit lab

Institut Jacques Monod, Paris

We are seeking to recruit a **motivated biochemist/cell biologist** to study how microtubule nucleation is regulated. By taking a biochemical and single-molecule assay approach, we want to understand how microtubule nucleating complexes are recruited and activated at specific cellular sites in order to allow cells to generate complex microtubule arrays, such as the mitotic spindle during mitosis.



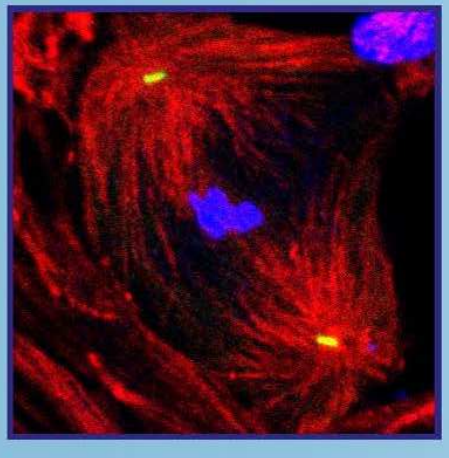
Gamma-tubulin ring complexes (γ-TuRCs) template and catalyse microtubule nucleation. We study the regulation of γ-TuRC recruitment and activation within *Drosophila*. γ-TuRCs exist in the cytoplasm but become active when recruited to centrosomes via γ-TuRC-tethering proteins. We recently showed that binding between γ-TuRCs and the γ-TuRC-tethering protein, Cnn, needs to be auto-inhibited in order to avoid ectopic cytosolic microtubule nucleation and subsequent major cell division defects (Tovey et al., 2021, JCB). We believe that Cnn binding somehow activates γ-TuRCs, but we don't yet know how and why. We also don't yet know how auto-inhibition and the release of auto-inhibition is regulated.

The successful applicant will use a variety of in vitro assays with purified proteins and γ-tubulin complexes to explore how Cnn binds γ-TuRCs and how binding stimulates microtubule nucleation. We expect the successful applicant to have experience in biochemical techniques, such as protein purification, while knowledge of the field, while advantageous, is not necessary. Applicants must have, or be near to completing, a PhD, and should have at least one first-author publication.

The **IJM** is situated in the heart of Paris and offers state-of-the-art facilities and a dynamic research environment.

Interested applicants should contact Paul Conduit (paul.conduit@ijm.fr). Details of our work can be found on our website:

www.ijm.fr/en/994/research-groups/microtubule-regulation-in-multi-cellular-animals.htm



Selected publications:

Tovey CA, Tsuji C, Egerton A, Bernard F, Guichet A, de la Roche M, Conduit PT. (2021). Auto-inhibition of Cnn binding to γ-TuRCs prevents ectopic microtubule nucleation and cell division defects. JCB

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 in neurons. eLife

Tovey CA, Tubman CE, Hamrud E, Zhu Z, Dyas AE, Butterfield AN, Fyfe A, Johnson E, Conduit PT. (2018). γ-TuRC heterogeneity revealed by analysis of Mozart1. Current Biology