

## Two PhD positions

# “Centriole regulation in health and disease”

Centre of Organismal Studies (COS) and  
Centre for Molecular Biology (ZMBH)  
Heidelberg University, Germany

We are seeking for two motivated PhD students interested in basic and applied centriole research related to human disease. The centriole is a microtubule-based structure that is important for mitotic spindle formation and assembly of the primary cilium, an essential signalling organelle. Duplication, length and structure of centrioles are highly regulated by a protein network, represented by the protein CEP350, which prevents centriole overduplication, over-elongation or fragmentation. Defects in this network are the cause of inherited disease and are linked to cancer. This project combines the expertise of the Pereira and Schiebel laboratories in cilia formation and centriole biology. It aims to understand the function and regulation of the CEP350 network and how its malfunction leads to disease. The project involves genome editing, the use of protein degrons for the rapid depletion of proteins, phospho-proteome analysis, and advanced microscopy (live cell image, ultra-expansion and electron microscopy).

Applicants should have a strong background in cell or molecular biology and a special interest in centrosome and cilia formation. One student will work in the Pereira lab at COS and the other in the Schiebel lab at the ZMBH. Both PhD students will be members of the Heidelberg Biosciences International Graduate School (HBIGS) (<http://www.hbigs.uni-heidelberg.de/>). The PhD position is funded in the first instance for 3 years.

Applications should be sent per email to both, Gislene Pereira ([gislene.pereira@cos.uni-heidelberg.de](mailto:gislene.pereira@cos.uni-heidelberg.de)) and Elmar Schiebel ([e.schiebel@zmbh.uni-heidelberg.de](mailto:e.schiebel@zmbh.uni-heidelberg.de)), and include a letter of motivation, a CV, name of 2-3 referees and a copy of Bachelor and Master transcripts.

### Relevant publications:

- 1 Theile, L. *et al.* Centrosome linker diversity and its function in centrosome clustering and mitotic spindle formation. *EMBO J* **42**, e109738 (2023). <https://doi.org:10.15252/emboj.2021109738>
- 2 Kanamaru, T., Neuner, A., Kurtulmus, B. & Pereira, G. Balancing the length of the distal tip by septins is key for stability and signalling function of primary cilia. *EMBO J* **41**, e108843 (2022). <https://doi.org:10.15252/emboj.2021108843>
- 3 Karasu, O. R., Neuner, A., Atorino, E. S., Pereira, G. & Schiebel, E. The central scaffold protein CEP350 coordinates centriole length, stability, and maturation. *J Cell Biol* **221** (2022). <https://doi.org:10.1083/jcb.202203081>
- 4 Streubel, J. M. S. & Pereira, G. Control of centrosome distal appendages assembly and disassembly. *Cells Dev* **174**, 203839 (2023). <https://doi.org:10.1016/j.cdev.2023.203839>