



## Open position for the LSM call of applications

**Department/Institute:** LMU faculty of Biology, Cell and Developmental Biology

**Subject areas/Research fields:** Cell Biology

**Keywords:** Centrosome, LLPS, Cell Division

**Name of supervisor:** Tamara Mikeladze-Dvali, PhD

**Project title:** Deciphering Regulation Centrosome Dynamics

### Project description:

Centrosomes are the main microtubule organization centers (MTOC) of animal cells. Cellular functions of centrosomes include among others cell division, cell polarization, motility and ciliogenesis. Many human diseases and congenital disorders are associated with dysfunction of centrosome components. An error-free regulation of centrosome dynamics and biogenesis is therefore essential for human health. We are using the model organism *C. elegans* to decipher how centrosome proteins are regulated to fulfill their function. Specifically, our work focuses on the microcephaly associated proteins PCMD-1 (pericentrin in humans) and the SPD-5 (Cdk5Rap2 in humans). Both proteins are needed to ensure centrosome stability and integrity during mitosis. The goal of this project is to delineate how posttranslational modifications regulate PCMD-1 function and thereby facilitate cell division in *C. elegans*.

### References:

Stenzel L. et al. PCMD-1 bridges the centrioles and the pericentriolar material scaffold in *C. elegans*. *Development*. 2021 Oct 15;148(20):dev198416. doi: 10.1242/dev.198416. Epub 2021 Oct 19. PMID: 34545391.

Mittasch M, et al. Regulated changes in material properties underlie centrosome disassembly during mitotic exit. *J Cell Biol*. 2020 Apr 6;219(4):e201912036. Doi: 10.1083/jcb.201912036. PMID: 32050025; PMCID: PMC7147112.

Erpf AC, et al. PCMD-1 Organizes Centrosome Matrix Assembly in *C. elegans*. *Curr Biol*. 2019 Apr 22;29(8):1324-1336.e6. doi: 10.1016/j.cub.2019.03.029. Epub 2019 Apr 11. PMID: 30982652.

### For further information, please contact:

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### Research group website:

[https://www.cellbiology.bio.lmu.de/research\\_groups/mikeladze/index.html](https://www.cellbiology.bio.lmu.de/research_groups/mikeladze/index.html)

**Apply:** Please send your application through the [online portal](#) of the Graduate School Life Science Munich (LSM).

