

## Post-doc position: Cytoplasm Mechanics and Division Positioning

**Area:** Cell Biology; Physics of the cell; Developmental Biology

**Starting date:** Fall 2022

**Job description:** We seek a motivated post-doc to work on cytoplasm mechanics and cell division in the context of early embryo development. Our team is generally interested in understanding basic physical and biological mechanisms regulating division positioning in multicellular tissues and embryos. The project will make use of *in vivo* force measurement, quantitative microscopy, modelling and possibly *in vitro* reconstitution, and aim to address how cytoplasm fluid mechanics contribute to organize cell division. You can find more information on our current research on the lab web page: <http://www.minclab.fr/>

For this ERC-funded project, we seek a motivated candidate willing to work in a multi-disciplinary environment. Experience in biophysics, microfluidics, imaging, cell and/or developmental biology is preferred, but any good application will be considered. If you are interested, please send a CV to Nicolas Minc: [nicolas.minc@ijm.fr](mailto:nicolas.minc@ijm.fr)

### Key References:

1. Xie J, Najafi J, Le Borgne R, Verbavatz J-M, Durieu C, Sallé J, and Minc N (2022) "Contribution of cytoplasm viscoelastic properties to mitotic spindle positioning", *PNAS*, 119 (8) e2115593119.
2. Palenzuela H, Lacroix B, Sallé J, Minami K, Shima T, Jegou A, Romet G and Minc N (2020) "In Vitro Reconstitution of Dynein Force Exertion in a Bulk Viscous Medium", *Curr Biol*, 30, 1–7.
3. Sallé J, Xie J, Ershov D, Lacassin M, Dmitrieff S and Minc N, (2019) "Asymmetric division through a reduction of microtubule centering forces" *J Cell Biol*. 218(3):771-782.
4. Tanimoto H, Sallé J, Dodin L and Minc N (2018) "Physical forces determining the persistency and centring precision of microtubule asters" *Nature Physics*, 14, 848–854.
5. Pierre A, Sallé J, Wühr M, Minc N, (2016) "Generic Theoretical Models to Predict Division Patterns of Cleaving Embryos." *Developmental Cell*. 39(6):667-682

