

# Postdoctoral position in theoretical biophysics

The lab "Cellular Spatial Organization", Institut Jacques Monod, Paris, is looking to hire a postdoctoral fellow who will be mentored by Dr. Serge Dmitrieff. We aim at a physical understanding for how elements in the cell, such as the cytoskeleton, cell wall, etc. self-organize under mechanical constraints from their environment. The postdoc will be funded for two years with a possibility of extension.

**The project** The goal is to understand biological materials as active self-organizing complex assemblies. You will develop a physical theory of intracellular dynamics, using a combination of continuous approaches (active gel theory, theory of elasticity, thermodynamics...) and numerical simulations. This will be supported by our strong interactions with experimentalists.

**The lab** The team "Cellular Spatial Organization" is an interdisciplinary team that hosts both theoreticians and experimentalists, and has gained a reputation on intracellular architecture and mechanics. We develop cutting-edge methods both experimental and theoretical. It is in an ideal scientific environment for a biophysicist, being located in a biology institute with a strong focus on experimental biophysics, and neighbour to an experimental and theoretical physics institute. It is also conveniently located inside Paris at the intersection of several public transport networks.

**The candidate** A PhD in physics, applied mathematics, or computational biology is strongly preferable. Publications in peer-reviewed journals are desirable.

**The application** Send a CV and a cover letter to [serge.dmitrieff@ijm.fr](mailto:serge.dmitrieff@ijm.fr).

**More information** Please check us on :

- [www.biophysics.fr](http://www.biophysics.fr)
- <https://github.com/SergeDmi>
- [https://twitter.com/bio\\_physics](https://twitter.com/bio_physics)

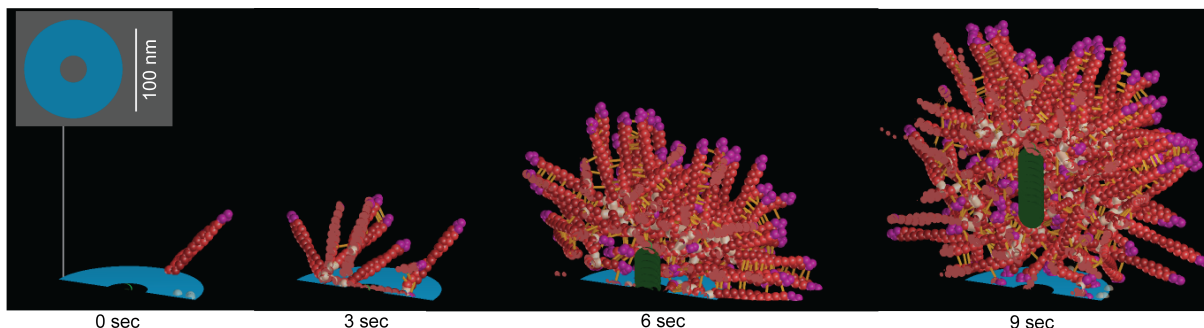


Figure 1: Overdamped Langevin simulation of actin in yeast endocytosis. Actin (red) polymerizes at the nucleation disc (blue). Since actin is tethered to the vesicle (green), the polymerization of new filaments will pull the vesicle upwards. (+) ends of actin filaments are shown in purple.