Biomimetism of Cellular Movement
UMR168 – Physico-Chimie Curie Lab

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We study how cells change shape and move, with implications for understanding cancer invasion and metastasis. Our approach is based on the study of *in vitro* biomimetic systems and *in vivo* cellular and animal models to dissect the physical and biochemical mechanisms governing cell shape change and movement. We use techniques such as optical microscopy, micropipette aspiration, optical tweezers, microrheology, microfluidics and apply these techniques to cells, nematode worms and embryos, chicken embryos and mouse oocytes.
Key publications

Year of publication 2018

Sherwood DR, Plastino J (2018 Jan 1)
**Invading, leading and navigating cells in Caenorhabditis elegans: insights into cell movement in vivo**
*Genetics* : 208 : 53-78 : DOI: [10.1534/genetics.117.300082](https://doi.org/10.1534/genetics.117.300082)

Year of publication 2016

**Cell-sized liposome doublets reveal active tension build-up driven by acto-**
myosin dynamics

**Year of publication 2015**


**Endophilin-A2 functions in membrane scission in clathrin-independent endocytosis**
*Nature*: 517 : 493-6 : [DOI: 10.1038/nature14064]


**WAVE binds Ena/VASP for enhanced Arp2/3 complex-based actin assembly**

**Year of publication 2014**

Blanchoin L, Boujemaa-Paterski R, Sykes C, Plastino J (2014 Jan 1)

**Actin dynamics, architecture, and mechanics in cell motility**
*Physiological Reviews*: 94 : 235-63 : [DOI: 10.1152/physrev.00018.2013]

**Year of publication 2013**


**Cell-sized liposomes reveal how actomyosin cortical tension drives shape change**
*Proceedings of the National Academy of Sciences USA*: 110 : 16456-61 : [DOI: 10.1073/pnas.1221524110]