

**Laboratoire de Biochimie Théorique**  
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# ***SEMINAIRE***

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**« Multiscale biofluidics: from molecular transport to  
physiological flows »**

Biofluidics involves the study from macromolecules to cells, in motion and confined in a physiological environment, where several forces of hydrodynamic, electrostatic and fluctuating origins act in multiple ways. To tackle such formidable problems, we have developed a multiscale approach based on representing macromolecules and cells in suspension via a hybrid Lagrangian / Eulerian framework. In general, the framework still involves a huge number of particles but one is mainly interested in the dynamics of a relatively small set of degrees of freedom. Therefore, a specific coarse-graining approach is needed to achieve biological realism and close the equations. In this talk, I will discuss how we constructed a multi-purpose computational tool that leverages high-end hardware and unfolds the potential of multiscale computing.

**Jeudi 21 mars 2019**  
**10h30**

**BIBLIOTHEQUE**

The discussion meeting will continue in on Thursday afternoon and Friday 22 morning. The program is listed at <https://sites.google.com/site/sterponefabio/home/muphy-discussion-meeting>