

Colloque M1 “Membranes and soft matter”

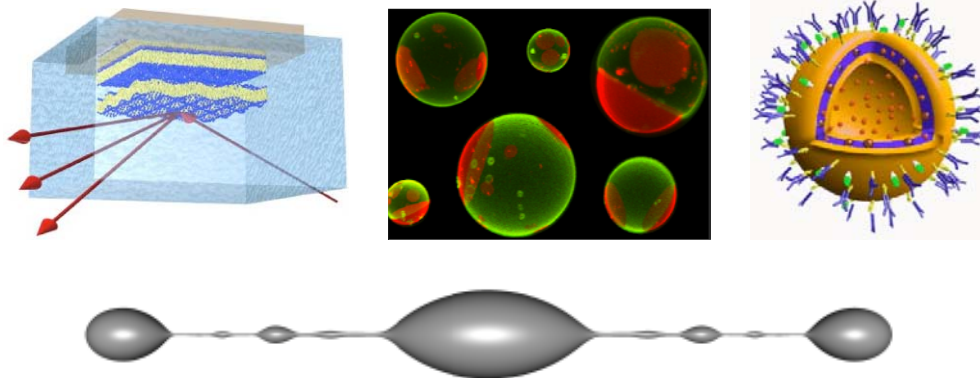
Thématique : Matière molle

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The aim of this colloquium is to present state-of-the-art research in the field of soft particles such as vesicles, polymersomes and microcapsules that are made from self-organized membranes. Structural organization, mechanical properties, adhesion or permeability are properties of interest, which can be tuned by controlling membrane composition. The variety of membrane chemical components – lipids, copolymers, charged polymers – allows driving their properties and their behaviour under external stresses, thus providing unprecedented control for the design of reliable containers for drug delivery, cosmetics, nutrition ... and new tools for understanding the role of membranes in numerous biological processes.



Above: diffusion X sur bicouches supportées (ICS) – polyphasic vesicles (ICS) – polymersome (LCPO)
Below: vesicle under elongation flow (IRPHE)

Some questions addressed within the colloquium:

- Nature of the organization, from the nanometer to the micrometer scales in microsystems made of lipids, copolymers and charged polymer multilayers ... from domains in lipid-copolymer mixtures to multiphasic vesicles...
- Link between interfacial rheology and structure
- Multi-scale modelling
- Behaviour of vesicles, polymersomes and microcapsules under external stresses: flow, adhesion, electric or magnetic field, chemical potential...

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