



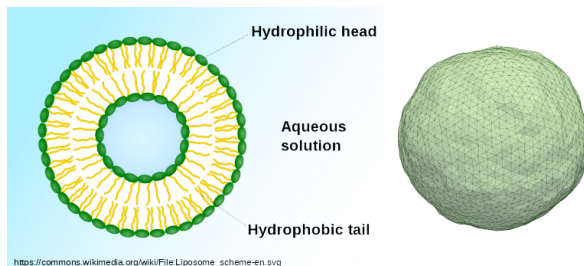
Membrane organization under strong curvature

Veronica Chappa & Prof. Dr. Marcus Müller

The cell membrane (also known as the plasma membrane) separates the inner contents of a cell from its exterior environment. It provides a protective barrier around the cell and regulates which materials can pass in or out.

Membranes in cellular systems are typically out-of-equilibrium. Metabolic processes continuously create active forces, which deform the membrane to control motility, proliferation as well as homeostasis.

Active processes are important for the biological function but the influence of the non-thermal, fluctuating forces that they exert on the membrane is only incompletely understood.



Using computer simulations we want to study how internal activation by active proteins such as pumps or membrane-associated enzymes affects collective membrane properties.

- We will study vesicles, whose shape is represented by a triangulated elastic sheet, embedded in a solvent.
- The active components will be represented as nodes that are associated with fluctuating force centers, which can diffuse over the triangulated membrane.

Interested? mmueller@theorie.physik.uni-goettingen.de
or veronica.chappa@theorie.physik.uni-goettingen.de

<http://www.theorie.physik.uni-goettingen.de/forschung/mm/>