

Membrane and Cell Functions (PCC: Physics of Cells and Cancer Lab)

Members involved in EnLife



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Relevant Axis

Axis 1: Controlling and programming biological living matter.

Axis 2: Emergence of spatial and temporal organization in living matter.

Axis 3: Information processing and dynamics of biological active matter.

Team expertise: **BioMEMBRANES**

- Membrane trafficking
- Mechanobiology (cells), Cellular protrusions
- Receptors, signaling
- Physics and mechanics of (active) membranes
- Biomimetic systems based on membranes + cytoskeleton + proteins (incl. trans-membrane)
- Single molecule dynamics and diffusion
- Optical tweezers, micropipette aspiration
- Optical microscopy (SPT, smFRET, STORM)

Question of Interest and/or Collaboration wanted:

- Chemical biology for protein labeling : quantum dots, unAA
- Protein production: cell-free systems, novel detergents, polymers for mammalian proteins extractions
- Microfluidics for encapsulation in droplets (proteins, cytoskeleton)
- Modeling dynamics & clustering of active proteins in membranes
- Simulations of membrane + proteins